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A Quarterly Review of American Archaeology

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AMERICAN ANTIQUITY

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EDITORIAL

THIS number of AMERICAN ANTIQUITY is devoted solely to articles concerning countries south of the Rio Grande. These articles have been contributed by archaeologists from a number of the American countries.

With this number, AMERICAN ANTIQUITY first goes to several of our sister republics under an exchange arrangement proposed by the Joint Committee on Latin American Studies. It seems most appropriate that the first number to be exchanged with institutions in Latin America should contain articles of interest to the people of these countries.

As this issue appears, the Third Round Table Conference of the Mexican Society for Anthropology will be convening in Mexico City. The subject of this conference, Connections between Middle America and the United States should provoke interesting discussions, and, we hope, papers that should be of extreme interest to us all.

There can be little doubt of the fundamental unity of primitive American culture. Trade over wide distances has been proved in a number of cases. That ideas and concepts accompanied these commodities in trade must have been as true in the days before Columbus first trod this continent as it is at the present time. There are some elements in the culture patterns of the United States and Canada which may seem far removed from the more involved patterns of the Middle and South American areas; upon closer examination it will be found that many of these traits appear as second or third hand reflections of traits highly developed in the centers of higher cultures. Too much has been learned in recent years to permit us to picture our aborigines as rock-ribbed isolationists.

ARCHAEOLOGICAL WORK IN MIDDLE AMERICA IN 1941–1942

J. ALDEN MASON

MANY factors contribute to the result that archaeological field research in Middle America is done, not, as generally in the United States, by many small expeditions from many institutions, but by a few organizations whose activities are mainly or entirely devoted to this region. In recent years the Mexican government, the assistance of which is now embodied in the Instituto Nacional de Antropología e Historia, the Carnegie Institution of Washington, and the American Museum of Natural History, have contributed the major part of such research. For several years past, the joint expeditions of the National Geographic Society and the Smithsonian Institution have taken an important part, and during the season of 1941–1942 three expeditions of the Institute of Andean Research, under the auspices of the Office of the Coordinator of Inter-American Affairs, carried on excavations in Middle America. The activity was thus greater than in most former years, and the results also of great importance, adding much to our knowledge, and in certain respects putting a decidedly new aspect to the historical picture. Following is a digest of the important results, the data supplied mainly by Sr. Eduardo Noguera, Director of the Museo Nacional de Arqueología; by Dr. Alfred V. Kidder, Director of the Division of Historical Research of the Carnegie Institution of Washington; and by Dr. George C. Vaillant, Chairman of the Andean Institute. The latter permitted me to digest, and to quote from, the reports of the leaders of the several expeditions. Some additional data were also taken from certain recent published reports such as *Mayas y Olmecas*, the report of the Second Round Table Conference held in Tuxtla Gutiérrez, Chiapas, April, 1942, and the papers read at the First Round Table Conference, published in *Revista Mexicana de Estudios Antropológicos*, 1941.

Archaeological field work in Middle America in the last several years has seen a great intensification of the tendency of the last decade toward research and studies which define ceramic types and establish sequential cultural horizons rather than toward the clearing and restoration of edifices and the excavation of tombs, though often one is a by-product of the other. Slowly, the horizons at sites in various parts of the area are being related and the contemporaneity of certain phases in widely separated regions recognized, though naturally there is still considerable difference of opinion regarding the actual dating in terms of years. Even on this point, a consensus is not far in the offing. First to be tied up were the Valley of Mexico, Monte Albán in Oaxaca, and Uaxactún and San José in the Petén, Guatemala. In the last few years, and especially

during the 1941–1942 season, stress was laid on vital areas which had been heretofore scientifically neglected. The "Olmec" region of the borders of Vera Cruz and Tabasco, the Huaxtec region of the borders of Vera Cruz and Tamaulipas, the region of Tajín in Vera Cruz, Tula in Hidalgo, Michoacán, Jalisco, Colima, Sinaloa, Kaminaljuyú in the suburbs of Guatemala City, and the west coast of Guatemala are now being, or have been, fitted into their proper places in the puzzle. The north-central Mexican areas, the southern Pacific coast, Guerrero and other such important and hitherto neglected areas are, or soon will be, under attack. The picture is rapidly clarifying.

The excavations of M. W. Stirling and the joint expedition of the Smithsonian Institution and the National Geographic Society to the "Olmec" region revealed a high culture, apparently of an age equal to any in Middle America. While the very ancient dates, one of them in the Maya seventh cycle, and presumably of a period B.C., are still not beyond controversy, the ceramics seem to justify them. Three archaic periods, apparently contemporary with the oldest archaic horizons in the Petén, the Valley of Mexico, and at Monte Albán, were distinguished. The middle and late horizons in the "Olmec" region are not so well differentiated, but are better known at sites further north in Vera Cruz, such as Cempoala, Tajín, Cerro Montoso, and Isla de Sacrificios.

For the 1942 expedition, Stirling returned to the site at La Venta, Tabasco, where Philip Drucker made some extensive stratigraphical excavations, the results of which are not yet available. The spectacular results of the expedition were the discovery of two tombs, each of which contained a number of beautiful objects of carved jade and other materials. One of these tombs was of sarcophagus type, in the form of a great hollow stylized jaguar about 10 by 3½ feet in size, covered with a stone slab of equal dimensions. The adornments were found in position on the traces of the interred body. The other tomb was rectangular and composed of many columns of basalt, nine or ten feet in length by a foot in diameter, and each weighing a ton or two. A number of these, laid parallel and horizontally, formed the roof and rested on similar, upright, interred columns forming the quadrilateral sides. Inside the grave was an interior platform of clay covered with limestone flags and with a thick layer of red cinnabar. There were traces of three interments. Among the jade objects were human figurines of characteristic "Olmec" type, mussel-shell, frog, leaf and flower, awl and beads, sting-ray spines and a hematite mirror. Elsewhere, a cache of thirty-seven polished jade axes was found.

The great mound at La Venta is about one hundred feet high. Another striking feature of the site is the great rectangular enclosure, 184 by 142 feet, enclosed by lines of basalt columns. Within this are

some stone-enclosed platforms composed of adobe bricks. In the center is the stela excavated in 1940. A popular account of this work, from which the above is digested, is published in the November, 1942, number of *The National Geographic Magazine.*

The excavations of Gordon F. Ekholm for the Institute of Andean Research in the Huaxtec region have revealed a sequence of ceramic periods of similar length, extending back to the earliest archaic period of Zacatenco in the Valley of Mexico, Monte Albán I in Oaxaca, Mamom or Uaxactún I in the Petén, and Tres Zapotes Lower I in the "Olmec" region. Six periods in all are distinguished. The earliest horizon seems to have its closest connections with Monte Albán I and Mamom, the second period with the Chicanel era of the Petén. It is likely that in this second period occurred the migration from the south that brought the Maya-speaking Huaxtec to this region and may even have carried some Middle American elements into the southeastern United States, for the ceramics show considerable resemblance to those of the lower Mississippi Valley, especially Marksville, Louisiana. The time is probably the very earliest centuries of the Christian era. Ekholm's fifth period is closely tied up with Aztec I-Mazapan, and his last, or sixth, with the last Aztec horizon in the Valley of Mexico.

Ekholm excavated two sites near Tampico, Tamaulipas, and two in the town of Pánuco, Vera Cruz. The Pavón site in Pánuco showed occupation throughout the entire series, the depth of accumulation being six and a half meters. Other sites were of shorter occupation but gave more detailed data for certain periods, and some, such as one at Tancol, were limited to one period, this one affording only the "classic" Huaxtec black-and-white pottery of the last era, Period 6. Another excavation at Tancol yielded material quite different from anything else, and this has been termed the "Tancol complex"; this is the Period 2 material that shows the Marksville traits.

The architectural aspects of the region are unusual, interesting and important. No stone masonry is used, the mounds having an earthen core with a thin facing of plaster made of shells, an unusual architectural technique for Middle America. A large mound of Period 5 at Las Flores showed many superimposed platform structures. The substructures were round, in the shape of truncated cones, with stairways like ramps extending to the tops at a lesser angle, an interesting fact in view of the close relation throughout Middle America between round temples and the god Quetzalcoatl, who seems to have had peculiarly close associations with the Huaxtec.[1]

[1] Dr. Eckholm's report, Publication 1a of the Institute of Andean Research, is announced as "Excavations at Tampico and Panuco in the Huasteca." Anthropological Papers of the American Museum of Natural History. Vol. 39, pt. 1.

In conjunction with Ekholm's work, the Mexican government made some excavations at Buena Vista, near the city of San Luis Potosí.

Kidder's researches at Kaminaljuyú for the Carnegie Institution likewise have been tied up with other Maya periods in the Petén, and can be matched against horizons in other parts of Mexico. The oldest period, Miraflores, is again of the Archaic era, correlating with Mamom and Chicanel in the Petén, with the pre-Acropolis Period I at Copán, and, therefore, with the oldest periods in the Valley of Mexico and in the "Olmec" and Huaxtec regions. His next-to-last period, Ayampuc, ties in with the Tepeú ceramic period in the Petén, with Tiquisate on the Pacific slope of Guatemala, with the Acropolis II period at Copán, and, therefore, presumably with the later Teotihuacán horizons, about 1000 A.D.

On the west coast, the excavations of Isabel Kelly for the University of California, of Ekholm for the American Museum of Natural History, and of Kelly for the Institute of Andean Research, the last season in Jalisco and Michoacán, have brought this region into the general picture. Farther removed from the centers of high culture, it has been more difficult to correlate this region temporally with the others and, being more peripheral, the identifiable ceramic periods do not extend so far back in time. In Sinaloa, Kelly and Ekholm distinguish three culture areas, Culiacán, Chametla and Guasave, each divided into several horizons. The last, Late Culiacán, brings us up to Conquest times. The earliest identified period at Culiacán and Guasave, the "Aztatlán complex," apparently correlates with Cholula-Mazapan-Aztec I, about the year 1200. At Chametla, there may be a period earlier than this, the Early, which may extend back into middle Teotihuacán times.

Probably the most significant result of the work on the west coast is the discovery that the Archaic and Early Teotihuacán horizons there are apparently a ceramic blank. Kelly voices the opinion that no ceramic horizons earlier than Late Teotihuacán will be found there. (This is surprising enough for Sinaloa, but the same seems to be true of Apatzingán, in Michoacán, only about sixty miles from Tzintzuntzan, the center of the Tarascan area. It would be a most surprising and significant fact if this applies to the entire Tarascan area, since this interesting nation is generally believed to have been one of the most autochthonous peoples of Mexico.)

Dr. Kelly's recent work centered in Apatzingán in Michoacán,[2] and in the Autlán-Tuxcacuesco area in Jalisco. At Autlán, a surface survey was made and sherds collected from over forty sites. Excavations were made at Apatzingán and in four sites at Tuxcacuesco. In each of the

[2] For further information on Michoacán, see "An Archaeological Survey of the Rio Tepalcatepec Basin" by John M. Goggin, and "An Archaeologic Reconnaisance in Southeastern Michoacán, Mexico" by Douglas Osborne, below.

three sites, three main culture horizons were distinguished except at Autlán, where the earliest is questionable, and these correlate with three periods in Colima. The earliest horizon at all sites apparently equates with Teotihuacán III. The names given to them by Kelly are, for Apatzingán, Chila, Las Delicias and Capiral; for Autlán, Mylpa and Cofradia; for Tuxcacuesco, Tolimán, Coralillo and Tuxcacuesco; for Colima, Periquillos, Colima and Los Ortices. Autlán is also a phase at Autlán, contemporary with the later phase of Mylpa, but of less time extent. Through the discovery of objects of Colonial type the latest periods are identified, and the others are placed in sequence as to time by the discovery of trade pieces, resemblances in ceramics, and similar criteria, though seldom by actual stratigraphical superposition. Though the deductions are mainly inferential, and may be altered in detail by future work, they are probably basically correct. One of the most important results of the recent work was the placing of the three Colima horizons in their proper temporal order: they had been identified several years ago, but it had not been possible, on their intrinsic evidence, to place them sequentially. Through resemblances with the ceramics of the Late Aztec and the Mazapan periods in the Valley of Mexico the Michoacán-Jalisco periods have been tied in provisionally with those of central and southern Mexico, and similar resemblances with Sinaloa pottery have permitted a correlation with the west coast. One Colima complex, the Armeria, found from the lower Armeria River to Santiago on Manzanillo Bay, has not yet been fitted into the general scheme. Dr. Kelly is continuing her studies on her material, assisted by a grant from the Guggenheim Foundation.[3]

An important companion work to the above was that of the Mexican Government at Tzintzuntzan and Jiquilpan in Michoacán, the former being the traditional ceremonial center of the Tarascans. Unfortunately, no detailed reports of these results are yet available. We await with interest advice on the possible absence of the Archaic and early Teotihuacán horizons here.

During the last season the Instituto Nacional de Antropología e Historia continued the excavations at Tula, Hidalgo, which have placed an entirely new interpretation on the Toltec question. Heretofore, although historical records refer to Tollan as the ancient Toltec center, Tula was considered too small a site to be thus identified, and it became universally accepted that the much larger and more impressive ruins at Teotihuacán represent ancient Tollan. (Some of the older chroniclers

[3] Dr. Kelly's report, "Excavations in Western Jalisco," Publication 2a of the Institute of Andean Research, will be published as No. 25 of *Ibero-Americana* by the University of California.

identified Teotihuacán and Tollan.) Teotihuacán types of artifacts, wide-spread in the Valley of Mexico, thus became accepted as type specimens of the Toltec period and culture. The excavations at Tula have revealed that the culture represented there, the true Toltec culture, is that heretofore known as Mazapan, found peripheral at Teotihuacán, and subsequent to the apogee of that site in point of time. Moreover, the architectural features such as caryatid figures, sculptured columns, carved reliefs showing jaguars and eagles, and other elements that are absent at Teotihuacán, are characteristic of the architecture of the Toltec period at Chichen Itzá, Yucatan. The excavations at Tula last season confirmed the impressions received as a result of the work of previous seasons. The great site of Teotihuacán and the period of the flourishing of the Teotihuacán culture therefore presumably antedate the Toltecs of the Annals. They might be pre-Toltec but are probably Early Toltec. Some writers now use the terms "Classical Toltec" and "Dynastic Toltec" to distinguish the cultures of Teotihuacán and of Tula.

Continuing its excavations at Teotihuacán, the Instituto Nacional uncovered some colored frescoes on the walls of buried buildings at the pueblo of San Francisco Mazapan, to the east of the Pyramid of the Sun. These, like those discovered by Batres many years ago, closer to the center of the great site and later destroyed, are painted with simplicity and vigor and portray scenes from the life of the ancient inhabitants. There are groups engaged in games, and other scenes of religious character, as well as aquatic animals, flowers and many other elements. The most interesting scene shows in the lower part of the fresco a large river or current of water which springs from a mountain, with persons swimming and diving. These scenes are being carefully studied by Lic. Alfonso Caso for the light that they throw on the life of the period and site. Nearby, to the south of the Pyramid of the Sun, a patio that showed superposition of edifices was uncovered, one of which contained a floor made of plates of mica.

At the great pyramid of Cholula, more tunnels, now totalling several kilometers in length, were driven into the interior, following the internal constructions. A large model of the pyramid that shows the relations of all the superposed structures was constructed; this together with objects found during the excavations, will be housed in a local museum.

The exploration and restoration of the structures found recently near the pyramid of Tajín in Vera Cruz was continued, and stratigraphical researches made that will place this site in its proper historical perspective. Stratigraphical excavations made at Cempoala, Vera Cruz revealing ceramics of many different types will serve the same function.

The plan and architectural features of the ball-court at Xochicalco,

Morelos, were revealed by excavation, and the stratigraphical characteristics of this archaeological zone were examined. Intensive work at Monte Albán was scheduled for resumption in the fall of 1942.

At Arroyo Tlacuache, Vera Cruz, excavations revealed the remains of edifices, and also some tombs, containing objects of jade, coral, shell, copper and other materials that evidenced a culture of high development. In the Maya region, the governmental activities were mainly restricted to edifices in urgent need of repair and restoration. This was done at Chichen Itzá and Uxmal, Yucatan, and at Palenque, Chiapas. Naturally, in the course of this work some new elements were discovered.

The Carnegie Institution continued archaeological research in Yucatan, Honduras, Guatemala and Nicaragua; a condensed report follows.

In Yucatan, S. G. Morley made minor excavations at Uxmal, finding an interesting ornamented façade which had been covered by a later masonry structure. George W. Brainerd and E. Wyllys Andrews cooperated in studies of several sites, notably Acanceh and Mayapán, Brainerd working on the pottery and Andrews on the architecture. They recovered materials which will serve greatly to clarify the sequence of cultural phases in the peninsula. In Honduras, Gustav Stromsvik continued the excavations and repairs at Copán which have been carried on for several years as a cooperative project between the Carnegie Institution and the government of Honduras. This year he completed the repair of the important Temple 11. The exploration of a considerable area south of the Main Group, long used as a cemetery, produced a large amount of mortuary pottery including certain trade pieces which will be of value for correlating the cultural phases of Copán with those of other regions in Middle America.

In Guatemala, E. M. Shook excavated a mound at the Kaminaljuyú site, and A. V. Kidder studied the pottery therefrom. It proved to be similar to one previously examined in that it contained a superposition of several pyramidal structures, most of which could be associated with tombs. One burial was extraordinarily rich, yielding large amounts of very beautiful pottery and a wealth of jade and other ornaments. Perhaps the most important aspect of the work was the identification of two cultural phases succeeding that of the mound proper. In one of these occurs plumbate pottery which seems to associate it chronologically with the first post-Teotihuacán (Mazapan) horizon of the Valley of Mexico. A. Ledyard Smith sectioned three ball courts at the same site, gathering data on construction and recovering a number of the tenoned serpent or parrot head sculptures which seem typical of these courts. At El Baúl on the Pacific slope of Guatemala, J. E. Thompson made excavations in an attempt to determine the type of ceramics associated

with the well-known sculptures of that site. Although his materials have not as yet been thoroughly digested, it seems probable that one group of wares is to be associated with the same post-Teotihuacán horizon found at Kaminaljuyú. Thompson also found a number of new sculptures and a cache of elaborately chipped "eccentric" flints.

In Nicaragua, F. B. Richardson and Karl Ruppert continued work on the problem of the age of the human footprints found impressed in a consolidated mud flow near Managua. The footprints themselves were followed for some distance in the hope of recovering cultural material, but none was found. Ruppert devoted the season to excavating in the recent deposits overlying the series of volcanic levels containing the footprints. His materials will permit definition of at least one of the several ceramic phases represented in that part of Nicaragua.

Irving Rouse's researches in Cuba for the Institute of Andean Research indicate that at the time of Columbus there were three separate cultures on that island, the Ciboney at the western tip, the sub-Taino in the center, and the Taino proper in the Baracoa district of eastern Cuba. The Ciboney were the presumptive autochthenes, a non-agricultural, pre-pottery people, possibly from Florida, who formerly occupied all Cuba and extended into Hispaniola. They were forced to the western end of the island by the sub-Taino, presumably the first Arawak wave from South America via the lesser Antilles. The true Taino in turn ejected the sub-Taino from the eastern part; they were late arrivals, possibly only fifty years before Columbus, as stated by Las Casas and substantiated by the fact that their middens in Baracoa are only a third as deep as those of the sub-Taino at Maniabón. There were two sub-types of Ciboney culture in Cuba, that at Maniabón distinguished from the other by the presence of stone balls and other evidences of stone grinding, and by the absence of shell vessels. Ciboney sites comprise camps and caves. An independent excavation of a Ciboney site on the north shore of Pinar del Rio in the extreme west of the island made by Cornelius Osgood indicated that practically no cultural change or development occurred during the Ciboney occupation at that site.

In the Maniabón Hills of Oriente Province, Rouse inspected 190 sites and excavated in two. Fourteen of these are without pottery and presumably Ciboney, the others sub-Taino and pottery-bearing. A site at El Mango revealed both sub-Taino and true Taino middens, distinguished by differences of form and decoration in pottery, the true Taino midden having objects of European manufacture at the surface. Some of the village sites in this region have been identified with historical records; the natives first met by Columbus were evidently the sub-Taino. There is only one sub-Taino type in Cuba which correlates

closely with, but with minor differences from, the Meillac culture in Haiti. It is also the culture of some pottery-bearing sites in Baracoa excavated by Harrington and mistakenly referred by him to the Ciboney. Petroglyphs and ball-courts are not found in the Maniabón sub-Taino region, and these elements were presumably brought by the later true Taino. True Taino sites are villages, camps, and burial, ceremonial and pottery-bearing (presumably dwelling) caves.[4]

John M. Longyear III made a reconnaissance of sites in Eastern San Salvador as the tenth project of the Institute of Andean Research, and later in the season Stanley H. Boggs surveyed central and western Salvador. Several new sites with architectural ruins were discovered, notably at Santa Rosa in Menazán, and at Los Llanitos, Las Moritas and Rio Ofos de Agua in San Miguel. Sherd deposits were found at El Ranchito and Hacienda Delirio in San Miguel. The site at Los Llanitos was partially excavated. The absence of Usulután (early) ware and the relative homogeneity of the ceramics indicated that it was a one-period site of late occupation, probably associated with the extinct Potón (possibly Mayance) Indians. Some twenty thousand sherds were recovered and roughly classified. Utility wares are like those of neighboring regions, but the polychrome pottery, six bowls of which were recovered in one cache, is unique, with bold degenerate geometric designs quite unlike anything heretofore reported from Central America. Some polychrome sherds, obviously trade pieces from the Yojóa-Ulúa region, provided the sole evidence of the influence of Maya ceramics. A cache of ladle-type incensarios and an effigy incensario cover were also found.

The Los Llanitos site consists of twelve mounds, two of which enclose a ball-court of sloping-side type, the southernmost ball-court so far reported from Central America. The masonry is mainly of blocks and slabs of pumice with wide areas of fill.[5]

University Museum
Philadelphia, Pennsylvania
January, 1943

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[4] The Antillean work of The Institute of Andean Research, projects 5c and 5e, has appeared as Nos. 25 and 26 of Yale University Publications in Anthropology: *The Ciboney Culture of Cayo Redondo, Cuba* by Cornelius Osgood, and *Archaeology of the Maniabón Hills, Cuba* by Irving Rouse.

[5] Longyear's report, "Excavations in Salvador," will appear as Publication 10a of The Institute of Andean Research, as Memoirs of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. 9, No. 2.

THE CALENDAR OF THE TARASCANS

ALFONSO CASO

LIKE the other cultured peoples of Mexico and Central America, the Tarascans of the time of the Conquest had knowledge of the calendar. Indeed, in the Relación de Michoacán[1,2]—an anonymous work which, as we shall later see, was written between 1540 and 1541,—are mentioned the names of thirteen Tarascan months, and for four of them the corresponding date in the Christian calendar is given. One more month, although not named, is said to have fallen on November 14.

The study of the Tarascan calendar has occupied the attention of three persons: Troncoso,[3] to whom we owe the first, although partial, attempt to correlate it with the Mexican calendar; León,[4] who suggested some translations of the names of the months; and Seler,[5] who, availing himself of the studies of the former, although without citing Troncoso, furnishes other translations of names and establishes a correlation which we shall study later.

The first difficulty met with in the study of this calendar is the different orthography used for the names of the months in the Madrid and the Morelia editions. I have in my possession a photostatic copy of the plates that illustrate the manuscript of the Relación, preserved in the Escorial, given to me by Don Federico Gómez de Orozco. Thus I have been able to check the orthography of the names of some of the months in this manuscript, but as it is probably a copy,[6] we cannot be sure that the correct orthography is used in it.

The following study of the names of the thirteen months which the Relación mentions utilizes the investigations of León and Seler and the

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[1] "La Relación de Michoacán." *Colección de documentos inéditos para la Historia de España*, por el Marqués de Miraflores y Don Miguel de Salva. Vol.LIII, pp. 5–293. Madrid, 1868.

[2] *Relación de las ceremonias y ritos y población y gobernación de los Indios de la Provincia de Michoacan*. Morelia, Imprenta de Alfonso Aragón, 1903.

[3] Del Paso y Troncoso, Francisco, *Calendario de los Tarascos*. Anales del Museo Michoacano Vol. I, pp. 85–96. Morelia, 1888. Reproduced under the same name in the Anales del Museo Nacional de México, Primera Epoca, Vol. IV, pp. 57–63. 1887 (sic).

[4] León, Nicolas, *Los Tarascos*. Second Part. Anales del Museo Nacional de México, Segunda Epoca, Vol. I, pp. 392–502. The part relative to the calendar is at pp. 484–490. México, 1903.

[5] Seler, Eduard, *Die alten Bewohner der Landschaft Michuacan*. Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthumskunde. Vol. III, pp. 33–156. Berlin, 1908.

[6] León, Nicolas, *La Relación de Michuacán*. Bibliographic and critical note. Revista Mexicana de Estudios Históricos. Vol. I, pp. 191–213. México, 1927.

analogies I have found with Tarascan names in Gilberti's vocabulary.[7] I also add a list of the pages of the Relación in which, in the Morelia edition, are mentioned the ceremonies or happenings which took place in those months, according to the source.

ALPHABETICAL ORDER OF THE MONTHS

A feast day which is mentioned without indicating its name (p. 111) took place on November 14. The only thing that the Relación says is that the Lord of Michoacán caused to be taken to Zacatula, by one of his principal men, some anchors Cortés had given him for the purpose of sending them on, and that this happened "for the feast on the fourteenth of November of the present year." The other fiestas mentioned are as follows:

CAHERI CONSCUARO (p. 93). The Relación says that this feast was on the seventeenth of July, "when it rains a lot in this land," and that Cristobal de Olid arrived at Taximaroa with two hundred Spaniards. The Relación contains nothing more about this feast.

Caheri means big. Seler writes *acunsquaro* and translates the name as "big feast at which fruit is again eaten," deriving the name from *acuni* which means to eat. Nevertheless, in the Relación it says *consquaro*, which lacks the *a*, indispensable for a derivation of this name from *acuni*. I have found in the vocabularies no word that might allow me to translate this name with any certainty. *Cuaro* means "in time of" or "in the place of." As this deals with the names of months, it must more likely be the former.

CAHERI UAPANSCUARO (p. 20). The only thing we know about this feast day is that the people danced with corn stalks on their backs. Seler translates "the big feast at which auguries are again forecast for the following year," probably deriving this translation from *uapacutarahpeni*, "to play at cards or dice." *Uapánscuaro* probably comes from *uapángani*, "to close with a wooden key," from which would be derived *uapánstani* which would mean "to close again," which, with the termination *cuaro*, would mean "the great time (or month) of closing again."

CUINGO (pp. 21, 115, 292). It seems that this, like the other fiesta called SICUINDIRO, means "flaying," since *sicuiri* is "skin," *sicuitani* is "to skin" and *sicuitángari* or *sicuitácata* means "skinned." Dr. León derives this from *cuint*, "bird," and writes it *Cuindo*, but there is no doubt that in the Escorial manuscript it is written the first way and,

[7] Gilberti, Father Maturino, *Diccionario de la lengua tarasca o de Michoacán*. Published in Mexico in 1559. Reprinted under the direction and guidance of Dr. Antonio Peñafiel. Mexico, 1901.

besides, the ceremonies that were held seem to support the first interpretation, for which reason Troncoso and Seler consider it as corresponding to the so-called *Tlacaxipehualiztli* of the Mexicans which also means "flying of men."

At this fiesta they made some figures like deer, out of bread made of amaranth seeds, which they called *tuycen*. According to Seler, they were like the form into which the god *Cupanzieri* was transformed, and had a mane and a long tail.

The fiesta was dedicated to the goddess *Cuerauáperi*, the old goddess of the earth, similar to the *Toci* or *Teteoinan* of the Aztecs. Her priests took her to Tzintzuntzan. It was a "general fiesta," that is, of all the district. At this feast, they killed some evildoers who had been sentenced. Before the day on which they were killed, they were bathed and dressed with a white mantle and a red shirt and decorated with collars and bracelets of copper. Wreaths of flowering clover were put on their heads; they were given to eat and drink and the priests of the god of the sea, called *tupiecha*, played the drums. Afterwards came the gladiatorial sacrifice, similar to that which the Aztecs celebrated on *Tlacaxipehualiztli*, in which the evildoers fought buffoons or clowns, with war-clubs and round shields, and, after conquering and killing them, flayed them and dressed themselves with their skins.

Troncoso says that in another part of the Relación this fiesta is called *Cuingo Vanavan*, but this is due to an error in the Madrid edition, already corrected in the Morelia edition, the "Vanavan"; reads in the original *vañauan* (they bathed), and refers to bathing the evildoers.

CURINDARO (p. 21). This was a fiesta of *Cuerauáperi* and, as in the fiesta of *Cuingo*, previously described, her priests took her to Tzintzuntzan and sacrified two slaves as offerings to her.

Dr. León translates the name as "the bread fiesta," that is, the fiesta of the corn cakes, for *curinda*, according to Gilberti, is "bread," but *Curinda cuaxanda* is "egg omelet" and *curunda* is *tamales*.

CHARAPU ZAPI (p. 20). The Relación tells us that at this feast offerings were brought for those sacrificed at the fiesta of *Sicutndiro*, of which we shall speak later.

Zapi means "small" and Dr. León translates the name of this feast as "the little scorpion," but that is called *cuerapu*. Seler translates it as "the little red fiesta," for, indeed, *charapeti* is "red"; but in Gilberti's vocabulary is, in my opinion, the real translation, for he says that *charapu* means "tree gall nuts," and this is understood to mean a species of pest or parasite of the oak tree or of the cypress. Further on we shall confirm this translation.

HANCIÑÁSCUARO (pp. 26 and 28). The name is written in this manner in the Escorial manuscript. According to the Relación, this fiesta preceded or followed that of war, called *Hicuándiro*. The Relación is not sufficiently clear on this point. Nevertheless, as the greater part of the description of the war feast is given in connection with *Hicuándiro*, it seems more probable that the former was a second fiesta for which *Hanciñáscuaro* served as a preparatory fiesta. The Relación de Chilchota[8] says that *Anzitacuaro* means "place of the spearthrower."

In this month the king ordered wood brought from all the province. The priests made some balls of tobacco (Seler), and burned them as an offering to the god of fire and to *Urendecauécara*, god of the planet Venus. The priests carried the statues of the gods, they played their conch-shell trumpets and at midnight took observations of "a star in the sky." Afterwards, they performed incantations to attract bad luck upon their enemies, calling by name the lords, priests and sacrificers of their enemies. The king also sent couriers throughout all the province so that the people would be ready for war.

In the Morelia edition, the plate which corresponds to the month *Hanciñáscuaro* (p. 14), bears the heading *Sicuindiro*, which caused Seler to take it to be the sheet corresponding to that month, notwithstanding that León has already assigned it its correct place, as it actually appears in the Escorial manuscript.

Seler translates the name as "where they again drag behind themselves into the field or celebrate the initial ceremony." He derives this from *ahntzin*, or *anhtzinatapai*, "to drag the feet," or from *antzinuhperi*, "first of many," but his traslations do not seem very convincing.

HICUANDIRO (p. 30). According to Seler, this means "where bewitchment is performed with the mouth," from *sicuahpeni*, "to bewitch," and he therefore changes the orthography to *Sicuándiro*, but it may also come from *iycuani*, "to bathe."

It appears that in this month people began the expeditions for conquest which they had prepared in the preceding month called *Hanciñáscuaro*, as was mentioned under the discussion of the later month.

MAZCUTO (p. 114). Seler writes it this way because he derives it from *cuiripeta mascuni*, "to cook corn with meat." *Mascuni* means also "to glue" and *mascucata*, "glued." In the Relación, it is written *Mazcoto*.

The Relación says that the feast was celebrated on June 7 and that for that date fifteen boys, who had been sent by the *Cazonci*, came to Mexico in order that they might learn the Christian doctrine from the priests of San Francisco but it gives no details of the ceremonies which, were held in connection with the fiesta.

[8] De Billela, Pedro, "Relación de Chilchota." 1579. Manuscript copy in the Archives of the National Museum of Mexico.

According to Seler, the meaning of this fiesta is the same as that called *Etzalcualiztli* by the Aztecs, at which feast a cooked dish of corn, beans and meat was eaten. Confirming this interpretation, the Relación de Chilchota, already cited, says that *Mascuaro* is translated as "place of cooked beans and corn which, by another name in the Mexican language, they call pozol."

PURECORACUA or PHURECUTACUARO (pp. 90, 197, 229). The Relación tells us that this fiesta was held on February 23. As we shall later see, there is an error of one day and it should be February 22. The first Spaniard who arrived at Taximaroa came for this feast, he rode a white horse, remained only two days and returned to Mexico. It was the feast of *Curicaueri* and another god of war called *Pungarecha* or *Pungarancha*, god of runners (p. 36) equivalent to the Aztec *Paynal*, and it was celebrated by taking blood from the ears to offer to the gods. The other reference to the fiesta says only that *Curátame*, son of *Tariácuri*, celebrated it and invited the latter to the celebration.

Neither León nor Seler attempt the translation of the name of this fiesta. *Purecucua*, means "war"; *purecupehni*, "warrior"; and *purecúcuaro*, "place or time of war." As the Relación says that this feast was in celebration of two war gods, the correct translation seems to me to be "month or feast of war."

SICUINDIRO (pp. 19, 28, 211). León translates it as "flaying." Seler translates it as "where flaying is performed." See the Tarascan words mentioned when speaking of *Cuingo* which justify this etymology.

Of the ceremonies of this fiesta we have a rather long description which, as Seler believes, probably has been preserved for us from the first part of the Relación, now lost. We know that five days previous, the priests arrived from various towns with their gods and joined with other priests from the place and with the dancers, all fasting in the temple until the eve of the fiesta. On that day they marked the breasts of two slaves which they sacrificed the following day, while the dancers, adorned with silver discs on their backs and gold moons at their necks, danced with nobles who were disguised as white, yellow, red and black clouds, and with four other priests who represented four gods who were with the goddess *Cueraúperi* to whom they dedicated the feast. After removing the hearts from the slaves, they carried them to the hot springs in the town of Araro and from the steam that arose they believed that the clouds were formed and that the goddess had charge of them. Afterwards came out some priests who cut the hair of all those they met, drenched it in the blood of those who had been sacrificed, and threw it in the fire. These priests wore the skins of the two victims.

Seler believes that the ceremonies which are mentioned in a paragraph preceding this one, also correspond to the month of *Sicuindiro*.

According to this, on the day following the fiesta they toasted corn, mixed it with honey, made *cacalote* and became intoxicated. The priest of the goddess and other dancers performed a dance and the priest was adorned with an artificial serpent, decorated with a paper butterfly.

During this month a fiesta was also held for *Curicaueri*. Incense was burned to him in the braziers, the temples of the god were renovated, and slaves were sacrificed to him after watch had been held over them on the eve of the fiesta.

UAPANSCUARO (p. 138). The Relación says that this feast fell on October 25. The only thing we know is that the women gathered ears of corn for the ceremony. Seler attributes, in part, to this fiesta what the Relación says of the other, called *Caheri Uapanscuaro*, and confuses the dance with corn stalks which was performed at the latter feast with the harvesting of ears of corn which was performed at the former. For the etymology, see what we have said about *Caheri Uapanscuaro*.

UAZCUATA CONSCUARO (p. 131). This is the way this feast is written in the manuscript of the Relación. It is the same fiesta that León calls *Izcuata Conscuaro*, which in the Madrid edition is called *Eguata conscuaro* and which Seler calls *Cezcuata cunscuaro*. Seler's orthography leads him to translate the name in the following way: "where they again guard well," from *cez*, "well"; *cuatani*, "to guard." The Relación says that the name signifies "feast of the arrows," but "arrow" is *pihtacua;* "archer," *cuanicuti;* and "to shoot with an arrow," *hatzihtsitani*, so that the feast should then be called *Pihtacua conscuaro*, and it does not so appear in the manuscript.

On the other hand, the Relación tells us (pp. 132, 206, 292) that at this fiesta general punishment was visited upon the evildoers who were called *uazcata*, for which reason I believe that the correct name of the fieast is the one I give at the beginning. It appears that after sacrificing the evildoers, the chiefs painted their bodies yellow, so that the souls of the sacrificed should go with the offerings to the goddess *Cuerauáperi*. The majority of the evildoers were tried and sacrificed at this feast, but some were kept to be sacrificed at other fiestas.

The chief priest, dressed with full pomp, first gave a long discourse to the people, relating the history of the nation and of its princes, and this forms the principal part of the Relación that has come down to us, translated by the anonymous Franciscan priest.

UNISPERACUARO (pp. 295–296, annex). León translates "the feast of the bones," from *uni*, "bone." It probably means "the feast of the song of the bones," from *pirecua*, "song."

The Relación says they kept vigil in the temple with the bones of the captives which they had sacrificed. The sacrificer sang the "story of the bones," that is he told how and by whom the sacrificed had been

made prisoners. Then the warriors and the women entered, and they danced holding hands. The captives that they were going to sacrifice also danced, and the dance lasted for five days.

Troncoso cites two more feast days or months, taking them from the work on Don Vasco de Quiroga written by Lic. Don Juan Joseph Moreno[9] who, in turn, takes the data from the history written about the College of Pátzcuaro by Father Francisco Ramírez,[10] whom León cites extensively. The two fiestas mentioned by Ramírez, who points out their resemblance to the Christian feasts and attributes them to the influence of a Tarascan priest who had had a knowledge of the ceremonies of the Catholic Church, are as follows:

PEUANSCUARO or the Christmas feast. *Peuangani* means "to be born"; consequently *peuanstani* would mean "to be reborn," and Peuanscuaro, "time of rebirth."

TZITACUARENSCUARO or feast of the Resurrection. In fact, *tzitacuarenscua* means "resurrection," so that the full name means "time or feast of resurrection."

CHRONOLOGICAL ORDER OF THE MONTHS

In all we have fifteen names for the Tarascan months, and since, in accordance with the form of the annual calendar of Mexico and Central

[9] Moreno, Lic. Don Juan Joseph, *Fragmentos de la vida y virtudes del V. Illmo. y Rmo. Sr. Dr. D. Vasco de Quiroga.* Imprenta del Real y más Antiguo Colegio de San Ildefonso. México, 1766, pp. 28 and 29 read: "There was in the Reign of Siguanga, who was the next to the last of the Gentle Kings, a High Priest who, with the supreme authority that he had in matters of Religion, initiated different fiestas which were like a prelude or announcement of the feast days our Church celebrates, as taught by the Holy Spirit. Among them was celebrated one called Pevansquaro, and another Tzitaquaresquaro, imitating at the first feast the feast of the Nativity, and at the second the feast of the Resurrection." *Note:* ". . . Father Francisco Ramirez of the Company of Jesus and Rector, almost two centuries ago, of the College of Patzcuaro, relates this in the history which he writes of the college, and says he knew about it from having come in contact with different Indians who attended and served that great Priest. He adds that he used to live in the Town of Erongariquaro, which means, in the tongue of the country, place where one is 'seeing' or expectant, because the town was expectant,—awaiting the arrival of the Spaniards and of the new law, the course of which was being prepared. Some examples of these Prophet Indians are found in Torquemada, Vol. 15, Chap. 49."

[10] Ramirez, Father Francisco, *Historia del Colegio de la Compañía de Jesús de Pátzcuaro.* Year 1600. Published by Dr. Nicolás León, Mexico, pp. 11–12. 1903. Taken from *Los Tarascos*, León, pp. 485–486, it reads: ". . . in the twilight of [their idolatry they had some previous and new ideas (of the Catholic Faith) through means of a priest of theirs whom they venerated very much, who (not without light from Heaven, as may be believed), informed them that soon would come one who would teach them the Truth of what they should believe and adore, and in order to further dispose them to doing this, he commenced to celebrate, in his way, many fiestas of those our Mother the Church celebrates, such as that called Peuánscuaro, or of the Nativity, and that of Tzitaquarénsquaro, or of the Resurrection."

America, there should be eighteen months, we lack only three of all the names of the monthly feasts celebrated by the Tarascans.

In fact, on pages 102–103 of the Relación, it is said: "the Spaniards remained six moons in the city (these people count each moon as twenty days)." From which it is inferred that the year of 365 days should be divided into eighteen months of twenty days, plus five days which the Mexicans considered as unlucky. All the peoples of Mexico and Central America who had calendars divided the year in this way.

As Troncoso has already observed, the four fiestas mentioned in the Relación, with their corresponding dates in the Christian calendar, fit into a system in which these feasts fell each twenty days, except one which would fall twenty-five days after, because between that feast day and the one immediately preceding were included the five extra days. In accordance with the dates given by the Relación, Troncoso concludes that the *nemontemi*, or five extra days, had to fall between February 22 and June 7. In fact, starting with any one of the dates given in the Relación, for example *Mazcuto*, which Troncoso chooses and which fell on June 7, we can make the following list of dates, under the supposition that they fell every twenty days, and see the relation with the five Christian dates shown in the Relación:

June 7	Mazcuto	*November 14*	Name not given
June 27	?	December 4	?
July 17	Caheri Conscuaro	December 24	?
August 6	?	January 13	?
August 26	?	February 2	?
September 15	?	February 22	Purecoracua. (The Relación erroneously says February 23.)
October 5	?		
October 25	Uapánscuaro		

These five concordances are enough to show that the feasts occurred every twenty days, or, what is the same, that they are the feast days of the native months; in addition, they show that the *nemontemi*, or five extra days, had to fall between February 23 and May 18, inclusive.

Seler erroneously states that the *nemontemi* could fall between March 14 and June 7, and adds that, according to him, they should fall from the fourteenth to the eighteenth of March, so that the first month of the year would begin on March 19.

Troncoso and Seler commit the same error in supposing that the feasts were celebrated on the *first* day of each month, when in reality, from what we know of the Aztecs, the feast days were celebrated on the *last* day of each month. Seler himself recognizes this when he states: "On the twentieth day of this feast (*Uazcata conscuaro*), which conse-

quently must have been one of the eighteen annual feasts, all evildoers in general were sentenced."[11]

Consequently, if *Mazcuto* was celebrated on June 7, as the Relación says, the feast day being the last day of the month, *Mazcuto* had to begin on May 19, and therefore the *nemontemi* could fall only between February 23 and May 18. The possible locations of the *nemontemi* are therefore as follows:

from February 23 to 27, the year would begin February 28
from March 15 to 19, the year would begin March 20
from April 4 to 8, the year would begin April 9
from April 24 to 28, the year would begin April 29
from May 14 to 18, the year would begin May 19

The reason for this is that *Purecoracua* was from the third to the twenty-second of February, and the nearest month for which we have a Christian date is *Mazcuto*, which was from the nineteenth of May to the seventh of June.

RECONSTRUCTION OF THE TARASCAN CALENDAR

Let us now see if, with the foregoing data, we have sufficient material to attempt the reconstruction of the calendar that the Tarascans used at the time of the Conquest. We have fifteen names of months, but the names and the positions in the Christian year are shown for only four of them. We still have to find the positions of eleven months and for the moment, until new documents are discovered, we must resign ourselves to an ignorance of the names of the three unnamed months. Even though we are sure of the existence of the *nemontemi*, we do not know the name the Tarascans used to designate them.

If we accept Seler's identification of *Mazcuto* with *Etzalcualiztli* (from May 19 to June 7), which seems probable because of the name, and if we take into consideration that this feast was celebrated on June 7, we shall have a starting point for locating the other fiestas in the Christian calendar, provided we can determine their order, either by their mutual connections evident from the context of the Relación or by establishing analogies between Tarascan names or ceremonies and those of the Aztec calendar.

If we start with the feast of *Sicuíndiro*, about which we have the most details, and consider its similarities to Mexican feasts, we shall see that the dedication to the old goddess of the earth and mother of

[11] Seler, *op. cit.*, p. 62. "In der zwanzig Tagen dieses Festes, das also eines der achtzehn Jahresfeste gewesen sein muss, wurde allgemeines Gericht über alle Uebelthater gehalten."

the gods, *Cuerauaperi*, the celebration of slave-flaying ceremonies, and the dance of the priests masked as clouds of four colors, white, yellow, red and black, correspond very well, as Troncoso[12] and Seler have noted, to the ceremonies celebrated by the Mexicans in the month of *Ochpaniztli* described by Durán,[13] and represented in the Bourbon Codex (pp. 29–30).[14] If *Sicutndiro* corresponds to *Ochpaniztli*, it would fall from August 27 to September 15.

Troncoso states, and correctly, that the feast of *Charapu zapi*, at which offerings were made to those sacrified in the month of *Sicutndiro*, should fall a little after this month. If we accept the correlation of *Sicutndiro* with *Ochpaniztli*, and if we put the feast of *Charapu zapi* after the Tarascan month, this would correspond to the feast the Mexicans designated with the names of *Teotleco* and *Pachtontli*. The first name means "the god arrives," the second "the bit of moss," the latter na ne, according to Troncoso, meaning "the parasite plant that lives on various trees and belongs to the *Bromelia* family and to the genus *Tillandsia*."[15] As we have said, according to Gilberti, *Charapu* means in Tarascan "tree gall nuts," which is understood to mean a species of parasite or pest of the oak or cypress. There is, therefore, a concordance of names which substantiates the placing of this month after *Sicutndiro*. *Charapu zapi* corresponding to *Pachtontli*, it would fall from September 16 to October 5.

The feasts of *Uazcuata conscuaro* and *Caheri conscuaro*, on the one hand, and *Uapanscuaro* and *Caheri uapanscuaro*, on the other, are easy to locate, for fortunately we have in the Relación the Christian dates for the second and the third. The Aztecs had various fiestas with the same name, the importance of which varied because the first was "little" and the second "big." Thus we have: *Tozoztontli* and *Hueytozoztli; Tecuilhuitontli* and *Hueytecuilhuitl; Miccailhuitontli* and *Hueymiccailhuitl; Pachtontli* and *Hueypachtli*. *Tontli* means "little" and *huey* means "big." In the same manner, in Tarascan fiestas we have one in which is used the expression *zapi* which means "little" and *caheri* which means "big." In the Otomí[16] and Matlatzinca[17] fiestas, and in the Quiché,

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[12] Del Paso y Troncoso, Francisco, *Descripción, historia y exposición del Códice Pictórico de los antiguos nâhuas.* (Bourbon Codex), p. 179. *Note:* Florence, 1898.

[13] Duran, Fray Diego, *Historia de las Indias de Nueva España y Islas de la Tierra Firme.* Vol. II, pp. 150 and 184. México, 1867.

[14] Bourbon Codex. *Manuscrit Mexicain de la Bibliotheque du Palais Bourbon.* Published in facsimile with an explanatory commentary by M. E. T. Hamy. Paris. 1899.

[15] Troncoso, *op. cit.*, pp. 165–166.

[16] Soustelle, Jacques, *La Famille Otomi-Pame du Mexique Central.* Travaux et Mémoires de l'Institut d'Ethnologie, Vol. XXVI. Paris, 1937, pp. 524–525.

[17] Caso, Alfonso, "El Calendario Matlatzinca." Manuscript. Lecture given before the Mexican Society of Anthropology, at the Regular Meeting of September 4, 1940.

Kakchiquel and Tzendal fiestas, there are also names which mean "little" and "big," and it must be noted that, in all these calendars, the fiesta called "big" invariably follows the "little" one.

For this reason, if the feast of *Uapánscuaro*, according to the Relación, was October 25 (that is to say, the month was from the sixth to the twenty-fifth of October), then the feast of *Caheri uapánscuaro*, should follow immediately after, its month lasting from October 26 to November 14, which latter date is marked in the Relación with a feast which is not given a name, but which we believe should be the feast of *Caheri uapánscuaro*, which is mentioned in other parts of the same Relación. *Uapánscuaro* corresponds then to *Tepeilhuitl* and *Caheri uapánscuaro* to *Quecholli*.

Similar reasoning permits us, with a great likelihood of being correct, to place the feast of *Uazcuata conscuaro* immediately before that called *Caheri conscuaro*. As this latter feast, according to the Relación, was on July 17 (that is, the month lasted from June 28 to July 17) *Uazcuata conscuaro* was from the eighth to the twenty-seventh of June, and, therefore, followed immediately after *Mazcuto*. Consequently, *Uazcuata conscuaro* corresponded to *Tecuilhuitontli;* the big fiesta which followed, *Caheri conscuaro*, corresponding to *Hueytecuilhuitl*.

The fiesta of *Curíndaro*, which means "time of the corn cakes," was, as we have said, dedicated to *Cuerauáhperi*, goddess of corn and mother of the gods, to whom the Mexicans dedicated a great feast in the month called *Tititl*. If this is so, and in accordance with the year plan which we are using, the month *Curíndaro* would fall from December 25 of one year to January 13 of the following year. But another concordance can be presented. According to the Otomí calendar of the Huichapan Codex,[18] the month that the Mexicans called *Panquetzaliztli* corresponds to the month called *Anthäxmĕ*, which Soustelle translates as "white corn cake." If we then use the same meaning for both months, *Curíndaro* would correspond to *Panquetzaliztli*, and would run from November 15 to December 4.

We have already said that, because of the ceremony of the gladiatorial sacrifice of the prisoners and of their flaying, as well as on account of the name of the fiesta, the identification of *Cuingo* with *Tlacaxipehualiztli* made by Troncoso and Seler, is fully justified. It would run, then, from February 28 to March 19, if, as Seler states, it was the first of the year, or from February 23 to March 14, if it followed immediately after *Purecoracua*. In either one of these suppositions, *Purecoracua* corresponds to *Atlcahualo* and falls from February 3 to 22.

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[18] Caso, Alfonso, "Un Códice en Otomi." *Proceedings of the Twenty-Third International Congress of Americanists*. New York, 1928. pp. 130–135.

Unisperácuaro, the "feast of the song of the bones," in which the warriors sang a song recounting the feats performed in taking the captives, explains the occurrence in Michoacán of great numbers of notched bones, erroneously called *omichicahuaztli*, that is, "bone scraper or timbrel". Undoubtedly some bones with deep notches at regular intervals, particularly bones bearing signs of rubbing,[19] did serve as musical instruments. But all those found up to now in Michoacán, according to Borbolla's study, appeared mixed with skeletons and showed no signs of wear, for which reason they could not have served this purpose.

Since the number of notches varied greatly from one bone to another, and since the feats of the warriors were related at the feast of *Unisperácuaro*, it seems to me possible that the number of notches indicated the number of prisoners that had been captured by the warrior who carried the bone and danced with it at the fiesta.

Among the Mexicans, a very similar feast was celebrated in the month of *Tozoztontli*. Sahagún[20] says that the thigh bone of the captive was adorned with papers and hung on a timber which was placed like a column in the center of the house of the person who had made the capture. He also says that they performed many ceremonies, toasts and dances with the bones of the captives, and that "they sang the songs of his house," that is they related the story of the person who had made the capture. For his part, Durán,[21] although he does not mention the ceremony of the bones, uses as the hieroglyph of this month a bird (perhaps the *toztli* or yellow parrot), pierced through with a bone, and he cites other ceremonies performed with serpents' bones.

For these reasons I identify *Unisperácuaro* with *Tozoztontli*, and consequently it must have fallen from March 20 to April 8, if the extra days came after *Purecoracua* or after *Cuingo*. As we shall see later, it is possible that *Unisperácuaro* may be the last month of the Tarascan year, and if this is so, the extra days would fall immediately after this month. Then *Unisperácuaro* would run from March 15 to April 3.

As we have said before, the months of *Hanciñáscuaro* and *Hicuándiro* followed one another, but we are not sure which was the first. In *Hanciñáscuaro*, a solemn ceremony was performed to the god of fire, like that which the Mexicans held in the month of *Xocotlhuetzi*. If we assume that the ceremonies of both months were so connected that they passed from one to another, which is frequent in the Aztec cere-

[19] De la Borbolla, Daniel R. "Antropología Tzintzuntzan Ihuatzio." Seasons I and II. *Revista Mexicana de Estudios Antropologicos*. Vol. III, pp. 99–121. México, 1939.

[20] De Sahagun, Father Bernardino, *Historia General de las Cosas de Nueva España*. Vol. I. Rebredo Edition. Mexico, 1938, pp. 87–88, 129–130.

[21] Duran, *op. cit.* Atlas. Third Treatise. Plate III.

monial, we can make *Hanciñáscuaro* coincide with *Tlaxochimaco*, from July 18 to August 6, and *Hicuándiro* with *Xocotlhuetzi*, from August 7 to 26.

Of the two fiestas, *Peuánscuaro* and *Tzitacuarénscuaro*, which Father Francisco Ramírez cites and to which we have already referred, noting their great similarity to those celebrated by the Catholic Church, we have already seen that the first means "rebirth" and the second "resurrection." Within the year plan used by the Relación, there is a month corresponding to *Atemoztli* of the Aztecs which goes from December 5 to 24. As the feast day of the month was celebrated exactly on the last day, it is very probable that the concurrence of the name with the day on which the birth of Christ is celebrated, may have given rise to the theory that there existed a priest who instituted this feast in the likeness of that celebrated by the Catholic Church. Under this hypothesis, *Peuánscuaro* would correspond to *Atemoztli*.

As to *Tzitacuarénscuaro*, which means "resurrection," Troncoso has already pointed out that this is also the meaning of the Aztec month called *Izcalli*, and the ceremonies of this month, and the fact that it is the first of the Aztec year,[22] confirm this idea. Consequently, this month would fall from January 14 to February 2.

We would then lack, for a complete reconstruction of the Tarascan year, the names of the months corresponding to *Huey tozoztli* (from April 9 to 28), *Toxcatl* (from April 29 to May 18), and *Panquetzalistli* (from November 15 to December 4), in case *Curíndaro* does not correspond to this last month, as we have already said.

It is evident that the proposed correlations between the Aztec and Tarascar. months, are not all founded on equally solid arguments, and some are very problematical. In general, we have been able to locate the known Tarascan feast days within a year plan in which we can without doubt note the relation between the two calendars.

The year having been thus reconstructed, we can now attempt the identification of the month with which the year began. From what we have seen of the location of the *nemontemi*, we already know that there remain to us five possibilities which we repeat here, with the concordances with the Aztec and Tarascan months:

February 28	*Cuingo*	*Tlacaxipehualiztli*
March 20	*Unisperácuaro*	*Tozoztontli*
April 9	Name not given	*Huey tozoztli*
April 29	Name not given	*Toxcatl*
May 19	*Mazcuto*	*Etzalcualiztli*

[22] Caso, Alfonso, "La Correlación de los Años Azteca y Cristiano." *Revista Mexicana de Estudios Antropologicos*, Vol. III, pp. 11–45. México, 1939.

Seler, chooses the first, founding his belief that the Tarascan year began with *Cuingo* on the fact that the Relación says that it was a "general feast" and that various Nahua calendars began with *Tlacaxipehualiztli*. On the other hand, the Matlatzincas, of Michoacán, began their year with *Inthacani*, which corresponds to the Aztec *Huey tozoztli*. I am inclined to accept this possibility, according to which the last month of the year would be *Unisperácuaro*, corresponding to *Tozoztontli*, the first of the unnamed months, and the *nemontemi* would run from April 4 to 8. If this is so, and if the Tarascans called their years by the last day of the last month, as did the Aztecs, then an Aztec year called 1 Acatl (1 Reed), in the Tarascan calendar would be called 3 Acatl, as this is the last day of *Unisperácuaro*.

Nevertheless, in order to show that the Tarascan year was so called, we would have to have previously demonstrated that the Tarascans had the ritual period of 260 days which the Aztecs knew under the name of *tonalpohualli*. In this connection, I find in Gilberti that "Calendar" was called, in the Tarascan of the sixteenth century, *Huriyata miyucua*, that is, "sun-count," which seems to be a literal translation of the Aztec name *tonal-pohualli;* but, on the other hand, neither this computation nor the name are mentioned in the Relación.

We have no indication of the names of the days in Tarascan, but the Relación has preserved for us a wonderful bit of data which allows us to state that, at least in the lake region, the Tarascans of the olden times used the *tonalpohualli* and that the days of this ritual calendar were designated by signs very similar to those which the Mexicans used.

Indeed, the Relación[23] states that Zurumban, lord of Tariara, celebrated the feasts of the months that we have described, for it says: "I put on that color now, for I have sacrificed some evildoers called *uazcata*, so that their souls may go, with the offerings, to the mother *Cueraúperi*, and all of them made themselves yellow." Without doubt this refers to the ceremony at the feast of *Uazcata cónscuaro*, to which we have referred.

The successor of Zurumban, called Hiuacha, counted the days in accordance with the *tonalpohualli*, for he says to Tariácuri's cousins when they go to invite him to war: "Wait, we shall count the days: the day of the reed and the day of the water; the day of the monkey and the day of the knife, on which I, Hiuacha, do not fight, but I buy slaves with cloth." The author of the Relación comments: "The Mexicans were accustomed to counting their months and days by some figures that they had painted on some papers, a reed and water and a monkey and a knife; they make twenty such figures: a dog and a deer,

[23] *Relación de Michoacán*. Morelia Edition, p. 206.

and counting the days with these figures they took their signs for fighting and to see about the birth of each one, and it appears that this lord Hiuacha had this count and not the Chichimecas, and therefore he says that they will count the day of the reed and of the water; and Tangaxoan, hearing what Hiuacha said, could not contain himself and said: Who told thee to count the days? We do not fight counting the days that way, but we bring wood for the temples. . . ."[24]

From the foregoing we see that Zurumban, and his son Hiuacha, had the ritual calendar computation, and at the same time they celebrated the feasts of the months that we have described. On the other hand, it appears that this computation was not known by the Chichimecas. But as the Tarascan culture of the time of the Conquest is the result of the absorption of the culture of the invading Chichimecas by the ancient inhabitants of the lakes, it appears probable that in the sixteenth century they had the *tonalpohualli*, as they undoubtedly had the annual computation. Against this, it may be alleged that the author of the Relación refers to the *tonalpohualli* as a system of counting that was foreign to Michoacán, for in order to explain it he says it was the computation of the Mexicans.

With this we could consider our endeavor to reconstruct the Tarascan calendar terminated, if we did not know, from its similarity to the Aztec and Mayan calendars, that the Indians did not compute leap year, for which reason their year necessarily kept going back one day every four years in relation to the Christian calendar (Julian). This being so, the dates which the Relación gives us for the fiestas of the months can be valid for a period of only four years, unless the Tarascans did compute the leap year, which is very improbable.

So in order to know to what years the author refers, let us see on what date the Relación was written. There are two points in the Relación that are strictly irreconcilable but which, upon comparison, place the time of its writing, of necessity, within a rather short period.

In the prologue, in which he dedicates the work to the Viceroy Don Antonio de Mendoza, the author says: "I would already have lost hope in my desire (to write the Relación) if I had not been encouraged by the words of Your Excellency who, *coming to visit this Province of Michoacán for the first time*, asked me two or three times why I did not secure something about the government of these people."[25]

From the foregoing it is seen that the Relación was not concluded until after the Viceroy visited Michoacán for the second time, for if it

[24] *Ibid.*, pp. 275–276. [25] *Ibid.*, p. 8.

had been written after the first visit, the author could not have guessed that the Viceroy would make a second visit to the province.

As Mendoza was in Michoacán for the first time in 1539, and for the second time in 1541, it may be deduced that the Relación could not have been terminated before this latter year. Since, on the other hand, he left the country on January 12, 1551, it could not have been delivered after this latter date. There might be a possibility that the Relación was sent to him later, but Plate I of the manuscript[26] shows the Viceroy, the priest-translator, and the principal Indians who were his informants, and the priest is shown delivering the original of the Relación into the Viceroy's own hand. It is possible that the priest and the Indians might have gone to the City of Mexico to make delivery of the manuscript, but I think it more probable that they delivered it in Tzintzuntzan during the Viceroy's second trip to Michoacán.

According to my idea, the following is what happened: After the first visit of Mendoza, the priest made the principal Indians write, in Tarascan, notes as to their ancient customs and chronicles. Afterwards, he must have begun to translate what had been written in Tarascan, as he himself says when he states that he makes the Relación "not as an author, but as an interpreter." When Mendoza returned to Mexico after his second visit, the Franciscan monk and the principal Indians must have placed the manuscript in the hands of the Viceroy.

The second point that allows us to date the Relación says: . . . "and since there soon was a meeting of the priests of St. Francis at Guazacingo (Huejotzingo), they sent as their local superior an old priest, a very good monk called Father Martín de Jesús, together with other priests, to the City of Mechuacán (Tzintzuntzan); and the Indians became very content. The first house in the City of Mechuacán was taken *about twelve years ago*, and they began to preach to the people. . . ."[27]

The dedication of the convent of Tzintzuntzan must be dated, according to my idea, in 1526, for Beaumont says that Father Martín de Jesús or de la Coruña "made our Most Glorious Lady St. Anne the patroness of that first church."[28] And on the map which served to illustrate his story[29] there is a small church which bears the following legend: "St. Anne Ynixurin. May (?), 1526."

If we now bring the information given us in the Relación as to the founding of the first house into agreement with what Beaumont's map

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[26] Leon, *op. cit.*

[27] *Relación de Michoacán*. Morelia Edition, p. 114.

[28] Beaumont, Father Pablo, *Crónica de Michoacán*. Publicaciones del Archivo General de la Nación, Vol. XVII. Mexico, 1932, p. 111.

[29] *Ibid.* Vol. XIX. Plate at p. 218.

tells us, we will have to add twelve years to 1526, to arrive at the date on which the Relación was written; but 1526 plus twelve will take us to 1538, that is, before the *first* visit of Mendoza to Michoacán, and therefore the date as given is irreconcilable. Nevertheless, we must note that the chronicler is not very sure of his information, nor does he give it as absolutely exact, for he does not say "twelve years ago" but "about twelve years ago," which means that his statement must be taken only as approximate.

As we know that the writing of the Relación could not have begun before 1539, and that the Relación could not have been delivered before 1541, it seems best to place its date as near as possible to the "twelve years" which the chronicler mentions as approximate, and consider that it was written in 1540–1541, allowing fourteen or fifteen years from the founding of the convent at Tzintzuntzan in 1526.

As I have shown in another place,[20] the Aztecs did not compute the leap year, so that their year went back one day each four years with relation to the Julian calendar. As leap year occurred in the Julian calendar in 1540—that is, in that year the month of February had twenty-nine days—and leap year did not again occur until 1544, the correlation between the Aztec and Christian years did not vary from March 1, 1540, to February 28, 1544. In accordance with the correlation established in my study, the last day of the month *Etzalcualiztli*, for example, was June 12, 1520. If we count the leap years that the Mexicans omitted to compute in 1524, 1528, 1532, 1536 and 1540, we shall see that there are five days, so that if *Etzalcualiztli* fell on June 12, 1520, it would fall five days previous in 1540, i.e. this feast fell on June 7, 1540, and the same happened in 1541, 1542 and 1543, since there was no leap year in those years.

But June 7 is precisely the date the Relación gives for the month called *Mazcuto*, which, as we have seen, is identified with *Etzalcualiztli*, which shows that our reconstruction is correct. The Relación could have been written only in 1540–1541.

We have chosen *Mazcuto* because it is the first month for which we have a basis for correlation with a Christian date, but it is evident that the same demonstration would hold for the other months and dates cited in the Relación, as may be seen from the year table below.

The Aztecs began their year with *Izcalli*, which, according to Table I, corresponds to *Tzitacuarenscuaro*, and the Tarascans began it, as we believe, with the first anonymous month corresponding to the Aztec month of *Huey tozoztli*, according to our hypothesis (or to the month of *Cuingo-Tlacaxipehualiztli* according to Seler). Therefore, the months

[20] Caso, Alfonso, 1939.

which remain between *Tzitacuarenscuaro* and *Hunisperácuaro* must have a difference of five days from the Aztec months, owing to the different intercalations of the *nemontemi* made by the two peoples.

TABLE I
TARASCAN YEAR

Christian Years 1540–1543		Tarascan Months	Aztec Months
April 9	April 28	NAME NOT GIVEN	Huey tozoztli
April 29	May 18	NAME NOT GIVEN	Toxcatl
May 19	*June 7*	Mazcuto	Etzalcualiztli
June 8	June 27	Uazcata cónscuaro	Tecuilhuitontli
June 28	*July 17*	Caheri cónscuaro	Hueytecuilhuitl
July 18	August 6	Hanciñáscuaro	Tlaxochimaco
August 7	August 26	Hicuándiro	Xocotlhuetzi
August 27	September 15	Sicuíndiro	Ochpaniztli
September 16	October 5	Charapu zapi	Teotl eco—Pachtontli
October 6	*October 25*	Unpánscuaro	Tepeilhuitl-Huey pachtli
October 26	*November 14*	Caheri uapánscuaro	Quecholli
November 15	December 4	NAME NOT GIVEN	Panquetzaliztli
December 5	December 24	Peuánscuaro	Atemoztli
December 25	January 13	Curíndaro	Tititl
January 14	January 18		Nemontemi
January 14	February 2	Tzitacuarénscuaro	Izcalli (x)
February 3	*February 22* (o)	Purecoracua	Atlcahualo (x)
February 23	March 14	Cuingo	Tlacaxipehualiztli (x)
March 15	April 3	Unisperácuaro	Tozoztontli (x)
April 4	April 8	EXTRA DAYS	

(x) The Aztec months thus marked begin five days after the Tarascan months. The Aztec month *Tozoztontli* ends April 8.
(o) In the Relación it says February 23, but evidently it should be 22.
The dates *italicized* are shown in the Relación.

It has therefore been shown that the Tarascan calendar agreed *day by day* with the Aztec calendar, which is another argument to show the fundamental calendrical unity among all the cultured peoples of Mexico and Central America. At a lecture given before the Mexican Society of Anthropology, I have demonstrated the concordance of the beginning of the months of the Otomí, Matlatzinca and Maya calendars, but I shall leave for other articles the publication of those results.

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Mexico
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THE "TLATELES" OF LAKE TEXCOCO

OLA APENES[1]

IN THE lake region of the Valley of Mexico Nature and Man have combined to produce radical changes in the character of the landscape. The giant elliptic bowl about forty-five miles wide by fifty-five miles long, which was formed during the elevation of the Mexican plateau, has been the stage of violent volcanic outbursts, followed by interludes of sedimentation. In geologically speaking recent times and, accordingly, since man made his appearance in the valley, sedimentation has been the dominating, if not sole factor. Owing to the fact that the Valley of Mexico has no natural outlet, the sediments brought down from the surrounding steep and high mountain ranges have accumulated in enormous quantities, forming a huge floor, over which the water from the mountain sides spreads in a shallow sheet. Since precipitation is often violent, and very irregularly distributed throughout the year, and since even evaporation under the strong tropical sun is too slow to prevent great quantities of water from remaining in the valley for a considerable time, the history of man in this region is a narrative of an endless struggle against the wet element. Even today the work is going on, although the tunnel outlet finished in 1900 has put a stop to inundations on a large scale. The colonial works have turned the lake bottom into an arid and salty desert, only partly covered by water.

On the other hand, the water has in many ways been an aid to the people of the valley. They learned to find food there, not only fish, but water insects, algae, and eggs of the waterfly (*axayacatl*). Birds coming from the north to stay at the lake during the winter months were, and still are, killed with throwing spears (*atlatl*) and caught in nets spread out between sticks a few feet over the surface of the shallow lake. Salt has long been extracted from the earth of the lake shores. The water provided means of communication and defense.

We find proofs of the important role of the lake throughout the sequence of cultures in the Valley of Mexico. The lake bottom yields ceramics ranging from "archaic" to late Aztec. In fact, the most widespread type of archaeologic remains in the region, the "*tlatel*," is found at the edge, or still more often, in the bed of the old lake. The *tlatel* is a low elevation, usually covered with short, stiff grass. The word, as used by the inhabitants of the region, does not in itself imply the presence of archaeologic material, but in most cases the *tlateles* are found to

[1] Dr. Gordon F. Eckholm, who was kind enough to read proof of this article writes "Apenes passed through New York last spring on his way to join the Norwegian forces, but we learned later that he died in a hospital in Canada from an appendix operation."

contain great amounts of sherds. Only in a few cases have I found *tlateles* to be either dunes formed by the wind or heaps of earth formerly used for salt extraction. I think the word is well suited to designate this archaeological phenomenon. The sherds found in *tlateles* are always arranged in layers and are, therefore, easily accessible to stratigraphic study. The *tlateles* have the characteristics of refuse beds, and basically there can be no doubt that they actually are such; however, their form, and above all their location tend to indicate that they have also had another function, namely that of habitation sites, raised above the water. Sometimes the layers of sherds are interrupted by thick layers of mud, which might indicate that material has been added, presumably from the lake bottom, in order to augment the habitable and cultivable area, or to protect the living space from rises in the lake level. In many cases, such areas are visible extensions of protuding points of the shore line, often backed by natural elevations. In other cases, they are built up within curved parts of the old shoreline, where sedimentation may have made the lake very shallow or practically dry. Some are found quite isolated, far out in the lake. In these, vertical cuts show that the whole artificial structure rests on the layer of fine sand that forms the lake bottom.

An explanation of the method by which these artificial islands were formed may be afforded by the very peculiar method of converting the marshy edges of Lake Texcoco into utilizable land which is known to have existed from times immemorial and which still exists in the form of the so-called *chinampa* technique.

As can be observed at Mixquic, the *chinampa* is nowadays built up by covering the thick layer of water plants which half floats, half rests, near the shores with leaves, grass, and weeds. After the covered area has been allowed to settle and form a more substantial base, it is covered with mud taken up from the bottom of the lake. Then beans, vegetables, and later, corn, are planted on this made land. Canals are left open between the fields for transportation and irrigation. Formerly, strips of the water plant carpet were cut loose and transported to places where they were needed. Traditionally, also, rafts were used as a base. This explains why the *chinampas* are popularly called "floating gardens," thus preparing a great disappointment for many a tourist who expects them actually to float.

There can be little doubt that the *tlateles* found on the lower levels have been formed by a similar technique or, in other words, that they are remains of prehistoric *chinampas*. One should perhaps allow for a difference in purpose, since the modern *chinampa* is reserved for agricultural purposes, while the *tlateles* have obviously been inhabited also.

This is natural since the building space already provided is more than sufficient for the present villages around the lake, every one of which seems to be situated on the top of an old *tlatel*, although construction and cultivation often make it difficult to recognize it as such. The absence of sherds over long stretches between the villages situated on the former lake bottom and their concentration within and in the immediate proximity of the towns, show clearly that they were formerly islands, and as we have seen, largely artificial ones. This condition is especially characteristic of the cluster of villages in the northeastern corner of the lake. It is probable that the ground on which Mexico City is built is actually a huge *tlatel-chinampa* complex, which at the time of the Spanish conquest was still separated from the mainland to the north, west and south by marshes, through which causeways were constructed.

The detailed study of the *tlateles* of Lake Texcoco as a whole is yet to be undertaken. A systematic stratigraphic investigation in connection with geological and careful topographical research will undoubtedly throw much light on the early history of man in the Valley of Mexico, especially if combined with a parallel study of the literary evidence along the lines followed by George Vaillant.

However, some excellent studies of individual points pertaining to the *tlatel* complex have been published. Vaillant, in the reports on his excavations at Zacatenco, El Arbolillo, and Ticoman—land-connected sites on a relatively high level—has established the ideal working method for the local conditions and shown that far-reaching conclusions can be drawn even from excavations at a few individual points.

In 1940, excavation was undertaken at El Tepalcate, a large *tlatel* site on a very low level situated well out in the old lake and still bounded on one side by water. The first account of the site was given by the writer before the Mexican Society of Anthropology and the Twenty-seventh Congress of Americanists. A committee of said Society, consisting of Sr. Ignacio Marquina, Sr. Eduardo Noguera and the writer, obtained the cooperation of the Instituto Nacional de Antropología e Historia, which designated Sr. Noguera to do the archaeological study of the site, the results of which are published in the following article in this number of AMERICAN ANTIQUITY. In the preliminary study and the mapping of the place and its surroundings I was greatly aided by the Municipal President of Chimalhuacan, Sr. Martinez, by Sr. Francisco Primavera and by Dr. Federico Reinking, who placed his Waco plane at my disposal for aerial surveys.

The name El Tepalcate (The Potsherd) by which the site is locally known, is an allusion to the tremendous amount of ceramic material

with which the field is saturated. The site is situated about two kilometers to the north of the village of Chimalhuacan, to which it belongs. In the rainy season it is accessible only by canoe through a long canal running from the mainland. It consists of two parts: a long, narrow, grass-covered elevation, which has all the characteristics of the *tlatel* as described above, and which contains well-defined layers of sherds; and a wide belt sloping slightly from the elevation to the water edge. It has so recently been under water—it is, in fact, still partly flooded in the rainy season—that practically no vegetation has yet gained a foothold on the salty and nitric soil. It is covered mainly by hundreds of peculiar round heaps of stones mixed with broken sherds and stone artifacts. In diameter, the heaps vary from 0.5 to about 4 meters. There are also rows of larger unworked stones forming straight lines across the field. The stone material has evidently been brought to the site from the mainland. In the center of the field are traces of some nearly rectangular structures.

At El Tepalcate at least four different hydrographic stages can be distinguished. The original base of the field was formed under water. Then came a period of sufficient dryness to make habitation possible. At the time of the Spanish conquest the lake level was so high that El Tepalcate was again deep under water, a condition which must have lasted for a considerable time. The succeeding draining of the lake through colonial times finally produced the present conditions.

Mexico
January, 1943

El Tepalcate, Chimalhuacan. *a*, Circulos e hileras de piedras; *b*, cuadrangulo formado por piedras sueltas; *c*, corte de uno de los cuadrangulos mostrando el acomodamiento de las piedras; *d*, figurillas humanas.

El Tepalcate, Chimalhuacan. *a*, Circulos e hileras de piedras; *b*, cuadrangulo formado por piedras sueltas; *c*, corte de uno de los cuadrangulos mostrando el acomodamiento de las piedras; *d*, figurillas humanas.

EXCAVACIONES EN EL TEPALCATE, CHIMALHUACAN, MEXICO

EDUARDO NOGUERA

EXCAVATIONS AT EL TEPALCATE

El Tepalcate, an archaeologic site on a low flat peninsula situated just off the eastern shore of Lake Texcoco and near the town of Chimalhuacan, is the site described by Ola Apenes in the preceding article.

The excavations made at the site consisted of fifteen separate pits and trenches by which an attempt was made to find stratified materials and to determine the nature of the circular heaps of stone and the alignments of stone forming large rectangles which are the only architectural features visible on the surface of the site.

Beneath one alignment of stones a crudely made stone wall was found to extend downwards to a considerable depth, but in all other cases the stones were found to be merely lying on the surface, the loose earth below continuing without interruption down to water level. The original function of the stone surface features was therefore not determined with any degree of certainty.

Sherds are abundant over the entire surface of the site and were found throughout the excavations, all of which were carried down to water level or to depths of from 1.60 to 2.00 meters below the surface. The sherd material has been classified into a number of distinct varieties including brown, red, grey, and black undecorated types, various white-on-red and white-on-brown painted types, and a very distinctive negative painted type. Only a very few sherds have incised decoration. Objects other than pottery include numerous fragments of obsidian, small well-polished stone axes, several thick fragments of bone used probably as awls, and a few human figurines.

Analysis shows that the entire pottery complex of El Tepalcate is almost identical with that which was found in the tunnel through the Pyramid of the Sun at Teotihuacán (also described by the author), and which has been called Teotihuacán I. The close relationship with Period I at Teotihuacán is seen most clearly in the similar vessel shapes, the identical types of decoration, especially in the negative painted ware, and in identical figurine types. There are some differences, but it can be said with certainty that the culture at El Tepalcate was in the same stage of development and contemporary with that from within the Pyramid of the Sun.

Various types of vessel supports are common at El Tepalcate but were rare in the relatively small amount of material from the Pyramid of the Sun. Some of these supports are very similar to those of Period III at Ticomán, and their presence in the typically Teotihuacán I complex at El Tepalcate illustrates better than any material we previously had the period of transition between the Archaic and the Teotihuacán periods. It becomes clear that Archaic elements were definitely included in the formation of the Teotihuacán culture at its beginning in the Valley of Mexico.

PATROCINADA y bajo los auspicios de la H. Sociedad de Antropología, se iniciaron trabajos de exploración en el lugar denominado

"El Tepalcate" a orillas del Lago de Texcoco y muy cerca de la moderna población de Chimalhuacán, Estado de México.

El descubrimiento y la importancia del lugar fue revelado y dado a conocer por el Sr. Ola Apenes, socio fundador de esa agrupación quien inició un estudio preliminar y demostró el interés arqueológico que ofrecía "El Tepalcate" a la vez que presentó un bosquejo de carácter arquelógico y geológico ante el XXVII Congreso Internacional de Americanistas, celebrado en México durante el mes de Agosto de 1939.

Reconocida entonces la importancia del lugar bajo el punto de vista arquelógico, la Sociedad sugirió la conveniencia de una exploración la que se llevó a cabo en forma inicial, con el apoyo económico del Instituto Nacional de Antropología e Historia y al suscrito le cupo la honra de haber sido designado para esta investigación preliminar.

Toda la zona o península de "El Tepalcate" está tapizada de numerosos fragmentos de cerámica y utensilios de piedra que demuestran una larga ocupación humana o bien una corta población por un extenso período (Pl. I*a*).

Una vez hechos los preparativos para esta exploración se eligieron determinados sitos para hacer calas y cortes con fines de buscar la estratigrafía que acusara diversas culturas o etapas culturales.

Detalle interesante de este lugar es un alineamiento de grupos de piedras colocadas a distancias simétricas y que quizás obedecieron a determinadas funciones, lo mismo que hileras de piedra formando enormes rectángulos, unas veces unos dentro de otros y que encerraban un gran espacio, y cuyas finalidades de ambos se trató de averiguar en exploraciones encaminadas a ese objeto.

Por lo que se refiere a las primeras son amontonamiento de piedras sin tallar de origen volcánico. Las exploraciones se concretaron a excavar todo el derredor de esta formación descubriéndose que las piedras estaban colocadas sobre la superficie del terreno y abajo de éllas no aparecía ningún objeto. Se decidió explorar estas estructuras con el fin de determinar sus funciones, sin poderlo aclarar quedando la suposición, pero en forma muy hipotética, de que se trata de sostenes para postes que formaran habitaciones de material destructible, una especie de choza o cobertizo. Se pensó en un principio que fueran tumbas o sepulturas, pero abajo de las piedras o en su derredor no apareció ningún resto de osamentas y sólo fragmentos de cerámica.

Por lo que se refiere a los grandes espacios limitados por líneas de piedra, tampoco se pudo averiguar su verdadera finalidad. Las excavaciones hechas dentro de los mismos espacios y a nivel de las citadas piedras, no descubrieron ningún indicio que determinara su objeto (Pl. I*b*). Las piedras ocurren sobre la superficie del terreno únicamente,

abajo de las cuales continúa la tierra suelta hasta llegar al nivel del agua, por lo que su verdadera función es difícil de esclarecer y cualquier hipótesis que sobre ella es presente, no podrá confirmarse de manera precisa y cualquier suposición es posible. Que se trate de cercados para limitar la ubicación de chozas, efectuar en ellas ceremonias de carácter religioso o para otros usos, creemos no es posible determinar y cualquier explicación es plausible.

Sin embargo, en una de las excavaciones sí se pudo observar que las piedras se extienden por una profundidad considerable a modo de sostén o quizás formando un muro primitivo ya que las piedras están burdamente cortadas y empotradas en la tierra (Pl. I*c*).

Ante estos vestigios y teniendo en cuenta las condiciones especiales del terreno a proximidad del Lago de Texcoco, o mejor dicho a orillas del agua y considerando los largos años que permaneció toda la península cubierta por las aguas, como lo ha demostrado el Sr. Apenes, circunstancia que revela que no fué ocupada ni conocida durante el período azteca ni el colonial, se decidieron hacer varias clases de excavaciones.

La primera se practicó siguiendo uno de los lados del patio situado en el extremo N. E. de la zona con el fin de reconocer las finalidades de esos cercados y al mismo tiempo recoger la cerámica que ahí apareciera.

En segundo término se rodearon los hacinamientos de piedras a fin de averiguar si representaban entierros o qué otra función desempeñaban. En seguida, y en vista de que no aparecía ningún vestigio en los lados del corte de estos amontonamientos, se procedió a cortarlos verticalmente, pero nada especial fue encontrado.

Finalmente se llevaron a cabo excavaciones estratigráficas haciendo cortes circulares y cuadrangulares y recoger por capas, todo el material encontrado.

Como sea que se trata de quince excavaciones sobre un terreno enteramente plano, donde no se encontraron completas estructuras, ni se presentan serios problemas para la exploración con fines de estratigrafía, no necesitaremos entrar en pormenores acerca de cada uno de los cortes. Todos ellos señalan las mismas capas de tierra e idéntica formación del terreno, compuesto de una gruesa capa de arena, a la que seguía una más fina y a una profundidad variante entre 1.60 a 2.00 metros apareció el agua, razón por la cual no fue posible profundizar más los cortes.

Las exploraciones se practicaron durante tres semanas recogiéndose todo el material que aparecía, distinguiéndose capas de 25 cm. con el fin de tratar de encontrar diversas culturas. Después de haber practicado quince cortes y considerando que había salido suficiente material para

reconocer la cultura o culturas allí representadas, se suspendieron las exploraciones y fué estudiado todo el material recogido.

La primera impresión al visitarse la región en un principio era que se trataba de una cultura sumamente antigua, quizás la primera etapa del arcaico, o sea El Arbolillo I, pero ésta suposición fue por completo descartada y confirmado ampliamente que esta cultura es relativamente reciente correspondiente al último período arcaico y principios del teotihuacano, como lo demostraremos con el exámen de los numerosos fragmentos descubiertos.[1]

El estudio, la clasificación y el porciento de los miles de fragmentos recolectados, nos permiten llegar a conclusiones definitivas con respecto a la cultura y época a que pertenecen los vestigios de "El Tepalcate."

En efecto, la clasificación de este material llevada a cabo por los estudiantes de arqueología Sra. Florentina Boadella de Gali y el Sr. Lorenzo Gamio, quienes con todo entusiasmo colaboraron en este trabajo desde la clasificación inicial y procedieron a hacer el recuento de todos los fragmentos y a la formación de tablas de porcientos, confirman la afirmación de que es una cultura no de las más antiguas como se presumía.

Procederemos a indicar ahora cuáles son los tipos de cerámica ahí representada.

Barro cafe claro. Pulido en el interior o en el exterior, o bien ambas caras. La forma predominante es de cajete o plato extendido con un pequeño borde en su parte exterior. A veces con ligera saliente, abajo del borde y formando una concavidad más o menos pronunciada. Algunos son de silueta compuesta, en ese caso hechos con fino pulimento, pasta gruesa y cocimiento bastante bueno y también se encuentran algunos con soportes en forma de pera.

En resúmen, podemos considerar como características anchos y profundos fondos y corto borde. Hay también ejemplares de grandes vasijas con asas rudimentarias y borde volteado plano. Los soportes son comúnmente cónicos y aguzados (Fig. 1, *1–2*).

Barro cafe obscuro. Puede incluírse bajo la misma clasificación que el anterior y es también muy numeroso. Sus formas son muy semejantes o casi iguales al tipo de barro que se acaba de describir, por lo que en realidad, se trata de una variante en cuanto a la tonalidad del barro ya que pulimento y forma son muy parecidas. También se encuentran vasijas grandes, con tendencias a mostrar un ángulo en la mitad de su

[1] Existen abundantes señales de la misma cultura en otras regiones dentro del Lago de Texcoco que indican una extendida población de toda la comarca.

cuerpo, es decir, es común la silueta compuesta según la cual, las vasijas presentan un ángulo agudo en el cuerpo del ejemplar, abajo de su borde (Fig. 1, *3*).

Son de mucho mejor pulimento, de tonalidad casi obscura y algunos ejemplares muestran ciertas semejanzas con el teotihuacano. Hay fragmentos de cajetes semiglobulares y otros de bordes planos.

Barro bayo. Se encontró corta cantidad de fragmentos de este barro y debido al pequeño tamaño de ellos, no se puede decir mucho acerca de su forma. También por sus semejanzas en cuanto a color con el café claro, no se pueden algunas veces, distinguir unos de otros. De cualquier manera, es significativo que esta clase de barro no es tan abundante como ocurre en el período Zacatenco-Copilco y que aquí tiende a disminuir (Fig. 1, *6–11*).

Cafe rojizo. Como se podrá apreciar en su tabla respectiva, es el más abundante.

La tonalidad de este barro es rojiza y corresponde a vasijas grandes, como ollas de cuellos divergentes y altos. Hay también cajetes extendidos, vasijas de silueta compuesta de menor tamaño y ángulo pronunciado y otras de borde formando ángulo con el cuerpo, aunque hay también algunos de borde plano. Otra forma es de cajetes de borde plano con somera ranura y también se encuentran cántaros o botellas (Fig. 1, *12–15*).

Barro gris aspero. De los fragmentos encontrados durante las excavaciones, de los de barro gris áspero se encontraron muy pocos, pero guardan decididas analogías con los de barro rojizo y quizá su tonalidad sea debida a distinto cocimiento, porque sus formas y aspecto general es en todo igual a las vasijas ordinarias de barro café rojizo.

Barro negro. En cuanto a los ejemplares de este barro, son más numerosos que el anterior. Obsérvanse igualmente, vasijas de silueta compuesta, algunas de alto borde convergente y cierta tendencia a los fondos planos por lo que hallarían semejanza con el período Teotihuacano, lo mismo que el tener ranuras circulares (Fig. 1, *16–23*).

Ceramica Decorada. Bajo este título incluímos las vasijas de color guinda, anaranjado y amarillento, por constituir esos colores el fondo de la decoración.

Le decoración de esta cerámica es muy variada como se podrá observar en la tabla respectiva, por lo que no intentaremos entrar en pormenores en cuanto a las variantes de esta ornamentación. La blanca sobre rojo consiste en gruesas líneas de espesa pintura blanca sobre un fondo guinda. Los motivos son sencillos; ángulos, triángulos rellenados

de blando, líneas curvas, triángulos encerrados en espacios cafés, etc. (Fig. 1, *24–28*.)

En combinación con el tipo anterior, formando una variante, se encuentra la misma decoración blanca, pero sobre café, en la que muchos motivos blancos van sobre el fondo café que es el propio del barro y se extiende por todo el resto del ejemplar. En cambio, el rojo y blanco va sobre una banda. Sin duda es más frecuente la decoración blanca sobre rojo. Como se podrá observar en la tabla respectiva esa decoración es la más numerosa de todas, y la decoración blanca sobre café y guinda es de buena calidad y excelente pulimento. Consiste en motivos blancos sobre el fondo café, en forma de líneas onduladas o triangulares o bien como contornos y el rojo ocurre en bandas que limitan las citadas líneas blancas. También hay variados motivos blancos en forma de ganchos y otros más complicados, pero esto último es lo excepcional. Es seguramente la cerámica más bien acabada y de mejor aspecto, acercándose más al verdadero polícromo.

La decoración blanca sobre rojo y café claro es una variante de la anterior con los mismos motivos, sólo que de menor pulimento y de un aspecto menos bello. No nos detendremos mucho al hacer la descripción detallada de la decoración blanca sobre distintos colores que se menciona en su tabla respectiva. Pueden considerarse como meras variantes, dejadas al gusto del artista o alfarero o quizá en algunos casos, se deban a diversos grados de cocción. Se trata del mismo impulso artístico, igual modalidad y seguramente son contemporáneos estos distintos tipos de decoración. Unos colores y combinaciones son más frecuentes que otros, pero todos los motivos se pueden resumir en gruesas líneas blancas sobre fondo de diversos colores y esas líneas blancas ocurren en muchas variedades. (Fig. 2, *1–6*).

La decoración café obscuro sobre rojo y café obscuro sobre claro, consiste en motivos sencillos en que alternan gruesas bandas rojas o café de una de las dos tonalidades y así obtener un efecto decorativo.

La decoración roja sobre café claro y obscuro es una variante del café sobre rojo y consta de las mismas anchas bandas por lo que se obtienen iguales efectos cambiando sólo el órden en que se coloca la pintura. Igual cosa puede decirse por lo que se refiere al rojo sobre blanco y sobre café.

La decoración negativa bastante abundante es de suma importancia porque nos señala el tipo especial que sirve de eslabón e indica su íntima relación con el período Teotihuacano I, según los hallazgos del túnel poniente de la Pirámide del Sol. Los fragmentos encontrados en El Tepalcate, son de mayor tamaño que los encontrados en Teotihuacán, lo que permite observar que la disposición de los motivos deco-

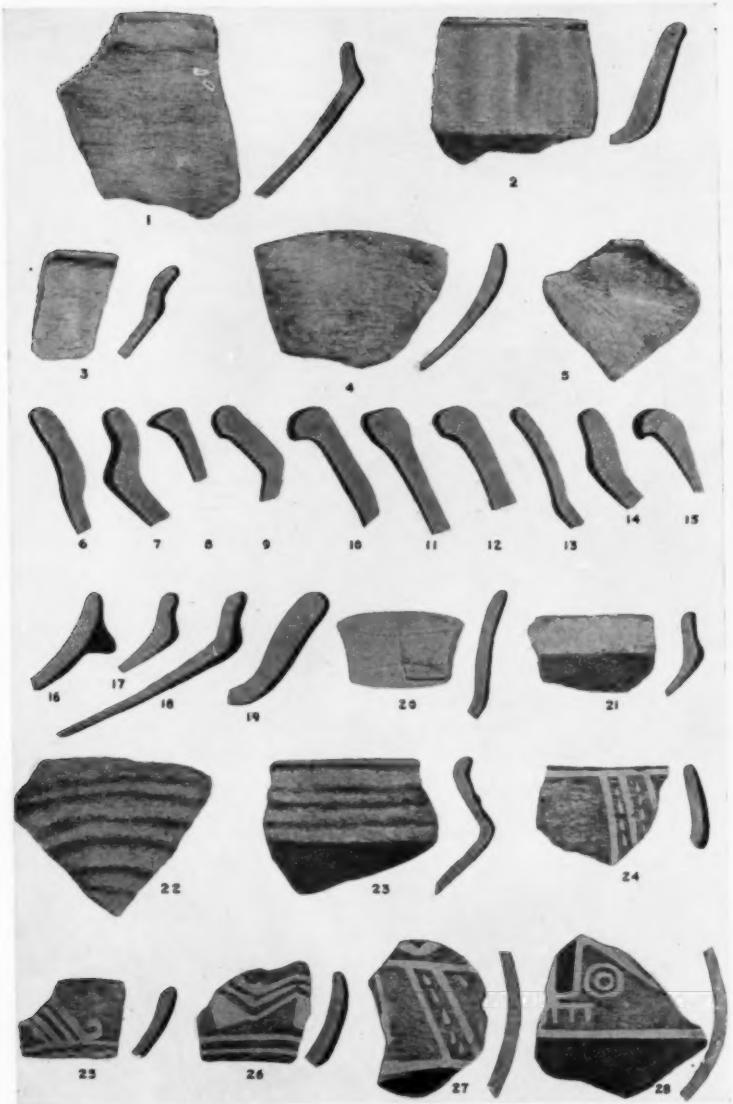

FIG. 1.—Cerámica café claro, *1, 2;* café obscuro, *3;* anaranjado, *4, 5;* baya, *6–11;* rojiza, *12–15;* negra, 16–23; decoración blanca sobre rojo, *24–28.*

FIG. 2.—Decoración roja, blanca, y amarilla, *1–6;* cerámica con decoración negativa, *7–11;* tipos de soportes, *12–17.*

rativos y el estilo de ellos son idénticos. Esta decoración es de suma importancia porque nos revela su contemporaneidad, época cultural y señala, una vez más, la aparición de esta técnica decorativa en el centro de México, en épocas muy antiguas (Fig. 2, *7–11*).

La decoración esgrafiada es muy escasa por lo que no es buena indicadora de período, aunque los pocos fragmentos encontrados guardan ciertas analogías con el material descubierto en la Pirámide del Sol y refuerza más nuestras consideraciones.

Por lo que se refiere a los otros fragmentos que figuran en la tabla de porcentajes, bastará ver las listas y su comparación con lo descrito del túnel de la Pirámide del Sol, para poder notar sus analogías.

En efecto, tanto en "El Tepalcate" como en Teotihuacán, se encuentra cerámica con decoración pintada de las siguientes variedades y que se describió con cierto detalle en el estudio sobre la cerámica que apareció en el túnel de la Pirámide del Sol,[2] de decoración negativa, quizás por el procedimiento de cera perdida; de decoración roja, negra, blanca y amarilla que es un verdadero polícromo; decoración roja, blanca y amarilla, constituyendo sólo una variante del anterior; y además, otros fragmentos que señalan existir las mismas variantes que en Teotihuacán son frecuentes.

Junto con el material anterior hay gran variedad de formas y cuellos y bordes análogos a Teotihuacán por lo que deseamos hacer hincapié acerca de la presencia de numerosos fragmentos de cajetes de silueta compuesta que halla igualmente un paralelo con lo encontrado en la Pirámide del Sol.

Los soportes de las vasijas ofrecen bastantes variedades en cuanto a forma y tamaño, ellos son cónicos y semi-esféricos, presentando algunas características propias y peculiares. Existe un primer tipo en forma de pera, grande, alargado y hueco. Este estilo es frecuente y ocurre en otras de tamaño más pequeño y de barros diferentes (Fig. 2, *15*, *16*).

Otra forma de soportes que se puede considerar el más típico del lugar afecta una forma alargada, pero en lugar de seguir una línea recta, sufre una desviación formando un ángulo que mejor se puede apreciar en la ilustración (Fig. 2, *12*, *13*). También éste es de distintos tamaños y barros, algunos son de barro negro, otros rojo con decoración blanca y éstos, en el último, casi simulan cabezas de un coyote o perro (Fig. 2, *13*).

Soportes cónicos pequeños y de mayor tamaño, se encuentran a su vez entre estos vestigios pero no son tan abundantes como los anteriores.

Las asas son abundantes, de forma de corte redondo o planos y muchas vasijas ostentan pequeñas asas rudimentarias de pequeños

[2] Noguera, "Antecedentes y Relaciones de la Cultura Teotihuacana" *El Mexico Antiguo*, Vol. 3, Nos. 5–8, Mexico, 1935. págs. 7–10.

tamaños ligeramente cónicas, aplanadas y situadas poco abajo del borde o cuello del ejemplar. Algunas veces se confunden éstas últimas con los abultamientos cónicos que constituyen un ornamento de las vasijas.

De mayor fuerza comprobatoria y que determina la cultura a que pertenecen, son las figurillas humanas. Pocas se encontraron, pero son de un sello tan peculiar y característico que no dejan duda acerca del período que representan. En efecto, por las illustraciones podrá observarse que son idénticas a las encontradas en el Túnel de la Pirámide del Sol, las que ya han sido ampliamente descritas en otras publicaciones y que corresponden al Período Teotihuacán I. Se caracterizan por su exagerado prognatismo, tamaño pequeño y por el uso de pastillaje o incisiones para los rasgos faciales. La presencia de estas figurillas en asociación con los tipos de cerámica descritos, señalan de manera definitiva la etapa cultural de "El Tepalcate" (Pl. I*d*).

De los restantes objetos encontrados en dicha zona, que no son de barro, figuran muy pocos ejemplares. En primer lugar ocurren hachas de piedra de buen pulido manufacturadas en basaltó; pulidores, uno de ellos de pedernal; y, como objetos de hueso, hay dos gruesos fragmentos, quizás usados como punzones.

Fuera de la cerámica y objetos de piedra, es muy difícil que se conserven ejemplares de otro material por la facilidad con que se destruyen. De todas maneras su hallazgo señala ciertas relaciones con el arcaico, pero más que nada con el Período Teotihuacán I con el que se pueden identificar estos vestigios.

Muy numerosos fueron los fragmentos de obsidiana, que no ofrecen ninguna especial particularidad y aunque no se haya emprendido ninguna clasificación en cuanto a la forma más predominante de las puntas de flecha y cuchillos allí encontrados sí podemos observar que la mayor parte son de obsidiana blanca que en otros trabajos y desde hace tiempo se vienen considerando como de uso más común en épocas más antiguas. Los metates sirven también para mostrar analogías por medio de sus soportes ya que los de corte forma cuadrangular que son los encontrados en "El Tepalcate," corresponderían a los procedentes de Ticomán en su última fase.

Después de esta descripción veámos que conclusiones se pueden obtener y qué comentarios se deducen de los hallazgos y exploraciones de El Tepalcate.

En primer lugar, por las ilustraciones que aparecen en este trabajo y comparadas con las del estudio sobre los descubrimientos en la Pirámide del Sol, podrá observarse una absoluta analogía, por no decir identidad. Las vasijas de silueta compuesta son iguales, variando sólo en cuanto a

que no todos los tamaños son iguales ni la clase de barro es idéntica, puede pues considerarse como una manufactura local en algunos de los casos. Algunos ejemplares son de un barro negruzco, menos bien pulido que los del túnel de la Pirámide del Sol, lo mismo que los de barro café y anaranjado que varían en cuanto a tamaño y consistencia del barro.

Un campo más amplio de comparación ofrece la cerámica decorada entre la cual encontramos formas y motivos decorativos idénticos. Los hallazgos de "El Tepalcate" permiten obtener una mejor idea de cómo es esta decoración ya que los fragmentos son más grandes y por lo tanto ofrecen más superficie para la decoración. Obsérvase muy abundantemente la decoración con pintura negativa, con los mismos motivos e igual cosa puede decirse por lo que respecta a los otros tipos de decoración pintada: rojo, amarillo y negro; blanco sobre rojo; rojo sobre blanco etc. que repite lo encontrado en Teotihuacán.

La analogía y comparación de todo este material se refuerza al considerar los objetos restantes tales como los bordes de cuellos de ollas que en este caso son más variados y numerosos que lo encontrado en Teotihuacán, pero no por ello menos significativo que nuestras comparaciones.

De mucho interés y valor arquelógico es el hallazgo de los soportes ya que fueron bastante numerosos los encontrados aquí y escasos en Teotihuacán. Estos soportes guardan mayor relación con los de Ticomán, con excepción de ciertas formas que no se encontraron en este lugar. En cambio, todos los demás son muy semejantes y nos señalan dos cosas: primero, que esos soportes son propios del período último Ticomán y se siguieron usando en Teotihuacán I; y segundo, nos muestran cómo era la transición y forma de soportes que se siguió usando en el período Teotihuacán I que antes sólo no se conoció por no haberse encontrado suficiente material en el Túnel de la Pirámide del Sol.

Es explicable que se hayan encontrado más variedades de fragmentos en "El Tepalcate" si tenemos en cuenta que las excavaciones fueron muy prolongadas y que se tuvo oportunidad de explorar en muchos lugares donde se extrajo material considerable. Por otra parte, ésto también se explica al considerar que los descubrimientos de Teotihuacán fueron hechos en el túnel, es decir traídos por los constructores de la misma pirámide y los restos dejados por los Teotihuacanos I fueron tapados cubiertos o diseminados por los habitantes posteriores en tanto que en "El Tepalcate" no occurrió, según todos los visos lo indican, ninguna ocupación posterior. Así pues, en el Túnel de la Pirámide del Sol hubo que contentarse con lo encontrado al perforarse el relleno de la pirámide en un espacio relativamente corto, pero es de suponerse que si se obtu-

vieran más ejemplares se encontrarían analogías todavía más estrechas.

Queda por decir que estos hallazgos nos aportan un conocimiento más completo acerca de ese período de transición del arcaico al teotihuacano y que los últimos elementos de esa cultura se hallan asociados al período Teotihuacano más antiguo.

Después de esta serie de comparaciones tan convincentes en que se demuestra la identificación del período I teotihuacano representado en "El Tepalcate"; junto con muestras inequívocas de la presencia también de elementos arcaicos en sus manifestaciones más recientes como es el Ticomán puesto que ya vimos oportunamente que los soportes son característicos de esa étapa cultural, tendríamos que convenir en que los restos de ese lugar muestran una fusión completa de las dos culturas que se sucedieron en el Valle y que los restos de "El Tepalcate" representan de manera precisa y de suma importancia la transición de una cultura a otra.

La semejanza de los fragmentos de uno y otro lugar no pueden ser más estrechas; iguales formas de vasija, idénticas figurillas humanas que, aunque hay ciertas variaciones en cuanto a la calidad de los barros, en algunos casos ésto no es debido más que a localismos, es decir, que en cada caso usaron un barro distinto con lo que se produjo una variante en cuanto a la clase de barro, pero que era la misma mentalidad e igual desarrollo cultural e idéntica época, queda fuera de duda.

En conclusión podemos terminar en que "El Tepalcate" corresponde y representa una ocupación del período Teotihuacán I en donde se ven expuestas todas las manifestaciones culturales de esa etapa de desarrollo y que en forma más completa que lo representado por los hallazgos de la Pirámide del Sol en Teotihuacán, muestra la conección más clara con la última etapa de la cultura arcaica, la denominada Ticomán III, señalando la fusión de ésta con los principios de la gran cultura que posteriormente abarcó grandes extensiones geográficas y de intenso desarrollo la teotihuacana con ciertos elementos del poniente de México.

Museo Nacional
Mexico
Diciembre, 1942

TABLA DE TOTALES Y PORCENTAJES DE FRAGMENTOS DE CERAMICA PROCEDENTE DE "EL TEPALCATE" CHIMALHUACAN, MEX.

Tipos de Ceramica	Totales	%
Barro café claro áspero.	655	5.84
Barro café claro pulido ext.	471	4.20
Barro café claro pulido int.	343	3.06
Barro café claro pulido ambas.	176	1.57
Barro café obscuro áspero.	627	5.59
Barro café obscuro pulido ext.	940	8.37
Barro café obscuro pulido int.	238	2.12
Barro café obscuro pulido ambas.	242	2.16
Barro bayo áspero.	5	0.04
Barro bayo pulido ext.	37	0.33
Barro bayo pulido int.	7	0.06
Barro bayo pulido ambas.	15	0.13
Barro rojizo áspero.	1458	12.99
Barro rojizo pulido ext.	1067	9.51
Barro rojizo pulido int.	360	3.21
Barro rojizo pulido ambas	215	1.92
Barro guinda áspero.	16	0.14
Barro guinda pulido ext.	23	0.20
Barro guinda pulido int.	8	0.07
Barro guinda pulido ambas.	4	0.04
Barro anaranjado áspero.	4	0.04
Barro amarillento áspero.	4	0.04
Barro gris áspero.	77	0.69
Barro gris pulido ext.	91	0.81
Barro gris pulido int.	27	0.24
Barro gris pulido ambos.	25	0.22
Barro negro áspero.	200	1.78
Barro negro pulido ext.	303	2.70
Barro negro pulido int.	36	0.32
Barro negro pulido ambos.	81	0.72
Ceramica Decorada.		
Blanco s/ rojo	64	0.57
Blanco s/ café obs.	4	0.04
Blanco s/ café y guinda.	8	0.07
Blanco s/ café cla. y ana.	7	0.06
Blanco s/ rojo café cla.	11	0.10
Blanco s/ café claro.	15	0.13
Blanco s/ anaranjado.	5	0.04
Blanco s/ café obs. y rojo.	11	0.10
Blanco s/ negro y rojo.	1	0.01
Blanco s/ negro.	2	0.02
Blanco s/ café cla. y negro.	2	0.02
Blanco s/ amarillo.	2	0.02
Blanco s/ gris obscuro.	1	0.01
Café obs. s/ rojo.	2	0.02
Café obs. s/ café claro.	1	0.01
Anaranjado s/café cla.	2	0.02

Tipos de Ceramica	Totales	%
Ceramica Decorada.		
Anaranjado s/café obs.	1	0.01
Rojo s/ café claro.	26	0.23
Rojo s/ café obscuro.	27	0.24
Rojo s/ negro.	2	0.02
Rojo s/ blanco y café cla.	10	0.09
Rojo s/ café y blanco.	1	0.01
Decoración negativa.	18	0.16
Decoración esgrafiada.	3	0.03
Cuellos.		
Vagos.	496	4.42
Verticales.	915	8.15
Divergentes	107	0.95
Convergentes.	30	0.27
Enrollados.	14	0.12
Semi-enrollados.	27	0.24
Bordes.		
Reforzados.	15	0.13
Perforados.	29	0.26
Redondos.	704	6.27
Planos.	218	1.94
Semi-planos.	107	0.95
Bisel.	37	0.33
Ranura.	18	0.16
Acanalados.	10	0.09
Trenzados.	13	0.12
Ondulados.	2	0.02
Inclinados.	10	0.09
Cajetes.		
Silueta compuesta.	211	1.88
Asas.		
Redondas.	118	1.05
Planas.	22	0.20
Ornamentales.	25	0.22
Soportes.		
Cónicos.	26	0.23
Esféricos.	11	0.10
Cilíndricos.	4	0.04
Zoomorfos.	3	0.03
Comales.	47	0.42
Fragmentos de obsidiana.	6	0.05
Objetos de piedra.	7	0.06
Implementos de hueso.	12	0.11
Totales	11225	100.04

AN ARCHAEOLOGICAL SURVEY OF THE RIO TEPALCATEPEC BASIN, MICHOACÁN, MEXICO[1]

JOHN M. GOGGIN

THE Tepalcatepec Basin lies in west central Michoacán, about 250 miles west and south of Mexico City. It can be reached in the dry season by a road that leads south from Uruapan.[2] The area covered is in a large valley (50 by 35 miles) limited on the south and west by the Rio Grande de Tepalcatepec and on the east by the Rio Marqués (Rio Cupatitzio). The northern limit is approximately the 700-meter contour where the foothills rise abruptly to the Sierras surrounding Mt. Tancítaro. This valley extends northwest some distance up the east side of the Rio Tepalcatepec.

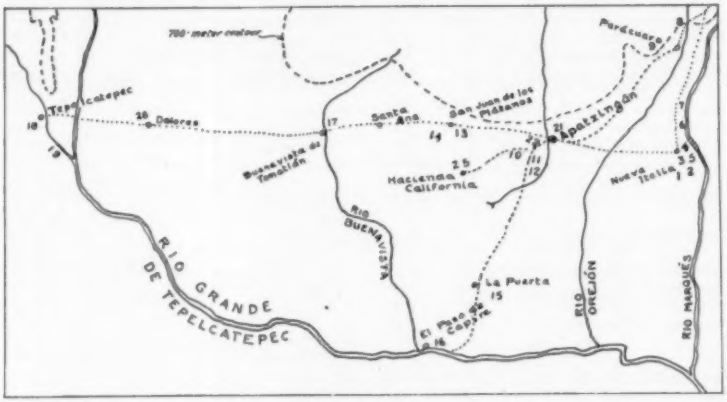

FIG. 3.—Archaeological Sites in the Rio Tepalcatepec Basin. Sites referred to in text: 4, Cerro de la Nueva; 5, Potrero del Malpaís; 9, Cerro de la Huerra; 10, El Chandio; 12, El Capiral; 14, La Palma; 15, La Puerta de Alazana; 19, Los Cimientos; 21, Cerro de San Miguel; 22, Delicias.

[1] This is a condensation of the complete report on file at the Department of Anthropology, University of New Mexico, Albuquerque.

The work was done in the summer of 1939, while a member of a University of New Mexico Expedition which covered various parts of Michoacán and Guerrero under the leadership of Dr. Donald D. Brand.

Appreciation is expressed to Dr. Alfonso Caso and Arq. Ignacio Marquina, of the Instituto Nacional de Antropología e Historia and the Mexican Government for permission to work in Mexico. Many thanks are also due to Don Pablo Frich for guiding me to the more important sites around Apatzingán, and allowing me to study his large and important collection.

[2] At the present time (1942) the railroad has been completed to Apatzingán.

The lowest land in this area, less than 200 meters above sea level, lies along the Rio Tepalcatepec to the south. The low latitude combined with the low altitude places this area in the *tierra caliente*, or the hot tropics. However, the seasonal nature of the rainfall, with very wet summers and dry winters, puts the area into Köppens Classification of Aw or tropical savanna. The flora as a whole, consists of low, spiney, xerophytic legumes with a few forests of large tropical trees and some lush river swamps.

Little is known of the early Spanish history of the area, due to the lack of research among early documents. We do know, however, that the area was Christianized quite early (1538), and that at that time, there were a large number of natives in the *tierra caliente*, although it is uncertain whether they spoke Tarascan. Recent Mexican scholars[3] place the greater part of the area in Tarascan linguistic territory. The area around the town of Tepalcatepec is shown as the territory of the Nahua-speaking Tecos. At the present time, the only Indians in the area are Tarascans who have come down from the highlands in recent years to work on the rice plantations. Just when the original Indians left is unknown, but in 1778 there were still a large number in the basin,[4] and as late as the early part of the nineteenth century there were apparently a few left.[5] Apatzingán, the principal town of the basin, is one of the fabled stops of the Tarascans on the journey to their present location, according to the *Lienzo de Jucutacato*.[6] However, the date of this *Lienzo* is doubtful so there is some question as to whether the events depicted in this painting are prehistoric.

Previous to the visit in 1939 seemingly only two other archaeologists had collected in the area: George H. Pepper who partially excavated some *yácatas*[7] at Hacienda San Antonio, twelve miles west of Apatzingán, in 1904,[8] and Carl Lumholtz who visited Tepalcatepec in the 1890's. In Apatzingán there is a local collector, Don Pablo Frich, whose large collection was made available for study.[9] This excavated collection supplemented to a very large extent the surface material collected. Smaller collections were studied in Parácuaro and Tepalcatepec. The survey was made from three bases: Apatzingán, Nueva Italia, and Tepalcatepec. These three towns were used for headquarters and the country around was ranged on foot and horseback.

[3] Mendizabal and Jimenez Moreno, Map. [4] Anon., 1778.

[5] Schoolcraft, 1854, Vol. III, p. 529. [6] Leon, 1889.

[7] *Yácata*, a Tarascan word meaning "a mound composed of stone and mud," is used as a name for the mounds peculiar to this region since no other word can be used without ambiguity.

[8] Pepper, 1916. This is now called the Hacienda California and is owned by the Cardenas family.

[9] At the present time this collection is in the Museo Michoacano at Morelia.

Recorded sites can be classified as cobble *yácatas*, earth *yácatas*, village sites, terraced hillsides, caves, burial sites, and several miscellaneous types. Some of the sites consisted of combinations of these.

Probably, there are more village sites than the number found would indicate. My guides usually took me to the more conspicuous "monuments" and only a few of these had village sites associated with them. The only isolated village sites seen were those found without a guide. In all, nine isolated and associated village sites were located. These were commonly sherd areas with no appreciable midden refuse. Quite often rock wall-lines in rows and squares are found in these sherd areas. Some of them appear to have been built up to half a meter in height, but most are lower. They were probably the outlines of *jacal* structures such as are still the common dwellings of the area. Only three village sites were found isolated from other forms of remains. Most of the sherd areas are quite small, but, at La Palma, sherds may be found along the river for more than a kilometer. South of the town of Tepalcatepec, sherds and wall lines may be found along the river and trail for more than two kilometers.

Terraced hillsides, because of their broad distribution in the valley and the local variations in type, are outstanding in interest. They are found from Cerro de la Nueva on the extreme east, to Los Cimientos on the west, and to the north at Cerro de la Huerra and near Apatzingán at Cerro de San Miguel. Only at Los Cimientos are there other types of remains associated with terraces.

Cerro de la Nueva has very low terraces made of *tepetate*,[10] which are barely discernible at the present time. Cerro de la Huerra has terraces that are as much as one and one-half meters in height, and those at Cerro de San Miguel are somewhat higher. At both of the above mentioned sites rough blocks of vesicular basalt are the building materials, while at Los Cimientos, terraces of about the same height are faced with cobble stones.

On terraces at Cerro de la Huerra and Cerro de San Miguel were found wall outlines of small rectangular structures. At Cerro de la Nueva there were only a few rows of slabs along the sides of the terraces, and no structural remains on top. At Los Cimientos there were cobble *yácatas* on the upper terraces as well as around the bottom of the hill.

It is difficult to draw any conclusions as to the reason for the building of these terraces. Cerro de San Miguel and Los Cimientos are on fairly low hills, while the site on Cerro de la Huerra is near the top of a low mountain. They could hardly have been made for farming purposes and do not appear to have been fortresses. Burials have been found at

[10] A laminated volcanic tuff which splits quite easily into thin slabs and is commonly used even now for building.

Cerro de la Huerra, but at no other terraced site as yet. They might have been village sites, but there was much flatter land below.[11]

Cobble *yácatas* are mounds of varying height and size, the surfaces of which are faced with smooth river boulders. Wherever the interior of one was seen (due to pot hunter's pits, road cuts, etc.), it seemed that the whole mound was constructed of a mixture of boulders and soil with occasional sherds. No burials or structures are known to be contained within these. As far as can be determined, this is the only type of site that deserves the name of *yácata*. In the Michoacán highlands the exact distribution of this form of mound is as yet uncharted, but we observed them near Uruapan and Lumholtz reports them from near Cherán.[12] In the northern Michoacán area, from Lake Chapala to Lake Cuitzeo, there are no *yácatas* of this exact type, although *yácatas* partially composed of rubble are found.

In the area under study, this was the most widely distributed type of ruin and apparently the most common type. It is found from the Rio Marqués on the east to the town of Tepalcatepec on the west, and seems to be associated with no other particular types of ruin, but only with red and white wares. One may find isolated *yácatas* or groups with other types of remains. For example, at Potrero del Malpais, a cobble *yácata* is an integral part of a long earth *yácata*, while nearby are isolated cobble *yácatas* as well as isolated earth *yácatas*. It is doubtful if these were intended as platforms for structures; as few have a flat summit. None that have been dug into have revealed burials.

Earth *yácatas* are also mounds that vary greatly in form and size. Their uses, not well known, appear to be as varied. Some are used for burials but others contain nothing. The low ones, such as are seen at Potrero del Malpaís, could have been used as pediments. The occurrence of lines of slabs within these would strengthen that belief. The earth *yácata* at La Palma apparently is composed mainly of refuse and was probably used as a habitation site in that swamp area.

The purpose of the large earth *yácata* near La Puerta de la Alazana is unknown. Its appearance is so similar to that of a pueblo ruin in the southwestern United States that I feel it might be the remains of a similar adobe structure or else that it might be the remains of a Spanish hacienda, despite the abundance of aboriginal pottery. The *yácatas* at Site G-11 give no indication of the reason for their construction, but they might contain burials. The flat-topped earth *yácata* at Santa Ana Amatlán may have been altered from a round top in recent times.

[11] It is possible that these were villages of mountain people who were accustomed to living on hillsides to conserve farming space in the valley and that the custom held when the people came to the low country.

[12] Lumholtz, 1902, Vol. II, p. 399.

The El Chandio site near Apatzingán is quite unusual because it appears to have been a walled pediment. The main mound has been partially excavated by Don Pablo Frich and is about 38 meters long and 18 meters wide. The structure consisted of a platform about 90 centimeters high composed of an encircling wall made of rough blocks of volcanic stones with the enclosed area filled with rubble. The most probable use seems to have been a platform for a building. Around this mound are several cobble and earth *yácatas*, wall lines and a large sherd area.

Two small caves showing relatively unimportant aboriginal occupation were seen.

One of the most interesting, yet conflicting, customs is the variety of situations in which burials are found in the area. However, despite the wide variance in burial sites the burials themselves exhibit many traits in common. The typical interment appears to be the full length, primary burial. Completely, or partially, covering the body are stone slabs or, on occasions, legless metates (*tiqüiches*). Burial furniture is usually present, often in considerable quantities. The objects most commonly placed with the burials are pottery vessels, which may vary in number from one to a dozen or more, and which are usually placed near the head. Ornaments accompanying burials are in varying quantities depending upon the site. At El Capiral, ornaments were not abundant, only occasional shell bracelets being found.[13] In contrast, the Delicias site—an earth *yácata*—produced great numbers of elaborate shell appliqué sets as well as torquoise mosaics and other varied ornaments. There are no exact data on the burials found at Cerro de la Huerra except that they were covered with slabs.

The slab coverings appear to exhibit some variation in placement. At Hacienda California, Pepper found that " . . . in no case was the grave enclosed with stone but, as a rule, there were either four or five large pieces of volcanic scoria set on end along the western side of the grave and almost invariably they slanted eastward."[14] At Delicias, the slabs were along both sides and slanted in a tent-like fashion over the skeleton. At El Capiral, one burial had slabs along both the east and west sides. As substitutes for slabs at one end of the burial were two legless metates.

All burials are primary and extended; no cremations were seen. Their orientation varies. At Delicias, those seen lay with their heads to the east. At El Capiral, the orientation is north or northeast.

In contrast to the more or less uniform burial arrangements are the

[13] At Hacienda California bracelets and rings were the only ornaments found by Pepper. [14] Pepper, 1916, p. 420.

various types of sites in which burials are made. At El Capiral, the burials are all under the natural ground level and were only revealed by erosion of the Rio Apatzingán. Earth mounds are apparently the most common place for interments. Delicias and Pepper's mounds at Hacienda California are examples of the predominantly earth *yácatas* which were constructed for burial purposes alone.

The possibility that earth *yácatas*, such as at Delicias, might have been burial places for the higher classes alone is discounted by Pepper's findings of a similar burial site, wherein the burials were accompanied by only a few, or no ornaments. There is no evidence, however, that earth *yácatas* were made solely for burial purposes as there are many that contain no burials.

So far as can be ascertained, there are no comparable data for slab burials in the surrounding area. At the closest known site to the southeast, Placeres del Oro, Guerrero, slabs were associated with a burial, but the resemblance appears to be purely superficial, as here the body was cremated and the slabs were intricately carved.[15]

POTTERY

Here, as in so many other areas, the sensitivity of the ceramic complex reflects cultural differences among groups of people. Potsherds to a weight of more than sixty pounds were collected. Most of the sites visited were represented in the collection. Upon study, these have been divided into twenty-two wares, the majority of which are represented in but small quantities and occurred at but few sites.[16] No one ware was found that is widespread, although almost every site has some ceramic type in common with another site.

Apatzingán Coarse, an unslipped, usually coarse tempered ware was the most common pottery. It is present in the majority of the sites, yet because of its variety of tempering, and coarseness, one would hesitate to recommend it as a cultural criterion of any significance.

Apatzingán Red, another form of this ware with a slip, is also widespread, but the same objections apply to its selection as a criterion.

Painted and incised wares are more valuable as an indicator of relationships between sites or complexes, because of their greater distinctiveness. However, except in the case of a few wares, their distribution in the collection is so limited as to make their value negligible.

Apatzingán Grooved Brown. Incising as a technique is quite rare except for this refined form which has a limited distribution around

[15] Spinden, 1911, p. 32.

[16] The complete descriptions of these wares are in the original report, on file at the Department of Anthropology, University of New Mexico, Albuquerque.

Apatzingán. This ware is described here because it is so distinctive that possible trade pieces may be noted in surrounding parts of Michoacán and Guerrero.

Apatzingán Grooved Brown: Only thirty-seven sherds were saved, but hundreds were seen and about thirty whole vessels examined. This ware seems to be found only within a short radius of Apatzingán, and the type site is El Capiral. The surface is well smoothed but not slipped, and of reddish-brown to orangish-red in color. Temper is medium fine grit with some mica in the paste. As a rule the ware is well fired with no carbon streak. The forms are usually *molcajetes* and small bowls. Legs are solid and wedge-shaped or pointed. The decoration consists of broad incised lines (3 to 5 mm) and punctations which have been polished over. The designs are all geometric and are confined to the area below the rim (Fig. 4, *e*).

While the extensive Frich collection was studied in detail, it is quite difficult to correlate notes and photographs of whole vessels with wares which have been identified on the basis of sherds since returning from the field. Certain wares are so unique as to preclude any errors in recognition but others, such as some of the plain wares and the various red-on-buff wares, are impossible to recognize. The following discussions of ware groups were based upon the collections seen and the sherds collected.

Red wares. These vary considerably in color, ranging from an orangish red or brown to a dark red. No brilliantly polished forms are found, with the exception of a fragment of a pipe bowl or incensor from Tepalcatepec.

Small ollas and *cántaras*[17] are the common vessel forms. However, tripod bowls, bowls, plates, and large ollas also occur. An interesting form of decoration of striated appearance, found on these wares, is the result of polishing the vessel in streaks.

Red-on-buff wares. These exhibit even more variety in color than the red wares. The base color may be a tan, orange, or buff. All are similar in respect to design, however, as the common motif is a broad red horizontal or vertical line. In the Frich Collection the majority of the red-on-buff vessels (representing several types) have a red line on the inside of the rim. The forms are generally ollas, often constricted once and sometimes twice. In the Frich Collection they form a higher percentage of the whole in relation to other wares than do the red-on-buff sherds collected. This was probably due to their selection as burial furniture, whereas the majority of the sherds collected came from the surface.

Red-on-white wares. Red and white wares are found over a wide area, but only as occasional sherds, except for Chandio White-and-red, which has a restricted distribution. It is possible that with the exception

[17] A *cántara* may be defined as a constricted-mouth jar.

of the last mentioned ware, all other red-on-white wares were trade pieces. Red-on-white wares are not found at any site with the red-on-buff, except at Los Cimientos. As Chandio White-and-red is very distinctive, it, too, is described in the event that trade pieces may be found in Michoacán and Guerrero.

Chandio White-and-red: Forty-eight sherds of this ware were collected and one whole vessel examined. This ware was named after its type site, El Chandio, where it was quite common. A few sherds were found also at Site 13 near Arroyo de San Juan. This ware is buff colored with designs in heavy, thick (up to 1 mm), soft, white paint which is often blackened by firing smudges. A thin red paint covers most of the remainder of the vessel and sometimes is applied over the white. Both paints were polished but the gloss was easily worn. All vessels forms are *molcajetes* with bottoms incised rather than gouged. The whole vessel seen was 23 cm. across and 10 cm. high. Designs are mostly large crude circles and dots. There is some mica in the paste, and the temper is fine to medium grit (Fig. 4, *d*).

At site 13, near San Juan de los Plátanos, one incised red and white sherd, slightly reminiscent of Lake Chapala material, was found.

Smudged wares. Almost every site produced a few sherds of a black smudged ware. With the exception of Chandio Black none of the smudged forms is represented by more than a couple of sherds. Often a red slipped ware was smudged on the inside. Chandio Black is the most highly polished of the wares.

Polychrome wares. Delicias Polychrome, represented by two vessels from Rancho Delicias, is a negative painted ware that appears similar to Lothrop's Orange Lacquer ware from Zacualpa.[18] A Tuxpan White-on-red (Ross) "teapot" that came from Los Cimientos was examined. The exact distribution of this ware is unknown but it extends from Tuxpan, Nayarit[19] to Tzintzuntzan, Michoacán.[20] Other occurrences are at Uruapan, Jacona, Santa Rita, Zacapu,[21] Nahuatzen,[22] and Cuitzeo.

At Los Cimientos four *cajetes pequeñas* were purchased. These are miniature tripod vessels, two of which are of plain ware, while the other two are of red-on-white. The average diameter is five centimeters. The painted wares both have zoomorphic designs on the bottom. Their sole occurrence here at the same site with Tuxpan White-on-red is of interest because similar miniatures are found in numbers at Tzintzuntzan.[23]

One large bowl in the Frich Collection that is quite obviously a trade piece has pastel colored plaster-like paint. This type of ware, sometimes called "al fresco," occurs sporadically over much of central Mexico and Middle America, but its exact hearth is unknown.

[18] Lothrop, 1936, pp. 29–31. [19] Ross, 1939.

[20] Tzintzuntzan sherds in the University of New Mexico Collections. Also see Borbolla, 1941. [21] All from Ross, 1939.

[22] Ortiz Rubio, 1920, No. 48. [23] Moedano, 1941.

Several small, varied effigy vessels which do not appear to have any counterparts were also seen.

Legs were fairly common on certain wares. In the collection of Don Pablo Frich there are many legged vessels, but legs were rare among the sherds collected from the surface. Legs were commonly solid and of a conical form. A hollow rattle-type leg with a slightly expanding bottom is occasionally found. No loop legs were found. Loop handles were very rare—only one was found.

Of interest is a zoormorphic leg found at El Chandio. Legs similar to this are widespread in Guatemala; closer to our area they are found in numbers at Cojumatlán, on Lake Chapala.

No plumbate ware was seen or collected.

MISCELLANEOUS TERRA COTTA OBJECTS

Tapaderas or Sahumadores are one of the most interesting cultural items of the *tierra caliente*. They may be visualized as inverted bowls, with four legs, and a handle on the top (Fig. 4, *a*). They were presumably used to cover burning copal or other incense; their interiors are always smudged. The paste is light brown terra cotta and the surface is smoothed, but never polished. They vary somewhat in size and decoration, but are all quite typical of the one form. Decoration is always applied, incised or punched, never painted; except for the applied effigies, decoration is always geometric.

The shape is typically oblong and the size varies from 4 cm. to 24 cm. across but the average is 12 cm. across. The surface is divided by straight or wiggly incisions into a series of panels filled with circular rings, apparently punched with the end of a reed. On each corner, halfway up, there is a small flattened knob. This is usually plain, but sometimes it is a zoomorphic effigy. The handles are commonly tripointed and pierced but occasionally represent an effigy.

This peculiar artifact is only found in quantity in the immediate area around Apatzingán where fragments were collected from five sites and large numbers of whole specimens were seen in the Frich Collection. No specimens were found in the Nueva Italia or Tepalcatepec areas. Lumholtz figures a slightly different type collected in the highlands.[24]

Pipes. The simplicity of pipe forms here in contrast to other parts of Michoacán is very surprising. No whole examples were seen or collected, but a fair reconstruction can be made from the fragments that were seen. They are about 20 cm. long and are undecorated. The straight stem is about 1.5 cm. in diameter, tapering slightly to the mouth and the bowl is merely a slight swelling and hollowing at right angles to the

[24] Lumholtz, 1902, Vol. II, facing p. 405. A variant is reported from Gualupita, Cuernavaca, Morelos: Vaillant, 1934, p. 98.

stem. Under the bowl are two small legs. The surface finish is commonly a reddish brown slip, although a few are white slipped. There is no similar pipe material known for other parts of Michoacán. All the highland pipes examined are very "Churrigueresque" in comparison.

FIG. 4.—Text: *a*, Tapadera; *b*, *c*, *Tarequas* of copper; *d*, *Molcajete*, Chandio White-and-red; *e*, *Cajete*, Apatzingán Grooved Brown; *f*, Figurine; *g*, Section of shell appliqué set, 18.5 cm. long.

Figurines and palettes. Other minor clay artifacts are found, such as the clay palettes reported by Pepper.[25] Figurines were quite rare, as only a few fragments were collected, and they were of several types. Other varied types were seen in the Frich Collection. None of those found in the area are radically different from the highland types. The commonest seen was of the "gingerbread" form. These are small, flat, nude, female figures with headdresses and earrings and are characterized by elaborate necklaces with pendants, and by double eyes (Fig. 4, *f*).

[25] Pepper, 1916, p. 420.

Spindle whorls, whistles, and seals. Spindle whorls are not common, but those found seem to be similar to many of the highland types, although no painted or slipped specimens were seen. Clay whistles and ocarinas, some in effigy form, were also examined. Only one seal or stamp is known from the area, and that was found by Don Pablo Frich at Chila, south of the Rio Tepalcatepec.

OBJECTS OF METAL, STONE AND SHELL

Copper. Copper was a fairly well known material and was worked into celts, bells, needles, and fish hooks. Besides these forms, an unusual "bolo"-like blade was made. These are sometimes called *tarequas*. One collected at Los Cimientos is 30.5 cm. long, with a maximum width of 6.5 cm (Fig. 4, *b*). Another, slightly larger (in the Frich Collection, Fig. 4, *c*) was collected near the Rio Tepalcatepec, south of Apatzingán. Other specimens resembling these blades are known from Huetamo[26] and Uruapan,[27] Michoacán, and from the state of Colima.[28] Another copper object of especial interest was a bowl about 18 cm. in diameter, 8 cm. deep and 1 cm. thick. The outside is covered with small punched holes and on the bottom one pierces the vessel. No counterpart of this specimen, to my knowledge, exists either in the literature or collections. Since its complete history is unknown there is room for doubt as to its legitimacy, but it is probably aboriginal because the workmanship is similar to other copper pieces.

Stone. Utilitarian objects of stone are numerous and quite similar to the highland material. Single flake knives of obsidian are widespread and usually common, but at a few sites, such as Los Cimientos, they are surprisingly rare. Projectile points are not common and are usually reworked flake knives. A few very beautiful, barbed, obsidian points and leaf blades have been found, while the typical knobbed mace head of the highlands is also known.

Legged metates are not found. All are legless trough metates like those found in the southwestern part of the United States. Usually they are roughly made; but nicely squared and ground examples are found. Vesicular basalt is the common material. Manos are varied in shape, but always approximate a flat rectangular slab with rounded corners.

In various collections, there are examples of human figures, usually seated and 30–40 cm. high, roughly carved out of vesicular basalt.

Ornaments and ceremonial objects. It is in these classes of objects that the art of the area really manifests itself. There is a great abundance of worked marine shell that has been imported from both the Gulf of

[26] Ortiz Rubio, 1920, No. 195. This specimen is probably from Catatemba.
[27] Ortiz Rubio, 1920, No. 199. [28] Disselhoff, 1936, p. 20.

Mexico and the Pacific Ocean. *Fasciolaria gigantea* and *Strombus sp.* are both used for trumpets. *Oliva*, *Conus* and *Trivia* were converted into tinklers by grinding off the axial region. Bracelets and rings were made from *Cardium* shells in a manner very similar to those manufactured in the southwestern United States from *Glycymeris*. The bright orange *Pecten* is used extensively for beads and sections of shell appliqué sets. Other shells used are *Olivella*, *Natica*, *Arca* and Limpets.

Shell appliqué sets are worked pieces of orange and white shell combined with black slate to form intricate designs. These flat pieces are all pierced through the back and sides evidently for sewing on a backing. The majority of specimens known to exist are those excavated by Don Pablo Frich at Delicias. They vary greatly in complexity from sets of simple squares or bars to interlocking designs (Fig. 4, *g*). Their position when found with burials indicates they were usually used as diadem around the head; occasionally they are found around the waist. Similar objects occur at Placeres del Oro, Guerrero, where shell and slate bars, but none of the intricate sets,[29] were found; at Jiquilpan, Michoacán, where a similar small slate bar has been found;[30] and at Zacualpa, Guatemala, where jade bars were collected.[31]

Beads of many shapes and sizes are found. Slate, shell, quartz crystal and serpentine were all utilized. Small shell disk beads (2 to 4 mm) are the most common. Tubular *Pecten* shell beads come next in frequency. Turquoise pendants and the small inlay pieces of a mosaic have been found. Two large jade beads or bar pendants have been found at Los Cimientos.[32]

The typical circular jade ear spool is lacking in this part of Mexico. Instead there is found a semicircular type of ear ornament, 30 to 35 mm. across and 10 mm. thick. These are made of shell or a fine grained rock, probably a silt stone. Those made of shell usually have a small rim around the edge, while the stone ones are always plain.

Remnants of slate-backed oxidized hematite mirrors have been found with burials at Delicias.

Conclusions

From the work done and the sites visited, it is quite apparent that the area as a whole is somewhat culturally isolated, but not a cultural unit. Lack of thorough knowledge of the cultures in the surrounding

[29] Spinden, 1911, pp. 41–42. [30] Collected by Donald D. Brand, July, 1941.

[31] Lothrop (1936) reports similar material in shell from Honduras, in gold, silver, and copper from Panama, Ecuador and Peru. They also appear to be represented in lowland Maya sculpture, p. 60.

[32] Similar ones were found at Zacualpa. Lothrop, 1936, p. 59.

territory precludes finding the exact affiliations of the cultures of the *tierra caliente* at the present time.[33]

Two complexes stand out. These can be called the Apatzingán complex and the Chandio complex. The Apatzingán complex is characterized by red-and-buff painted wares, Apatzingán Grooved Brown ware, slab-covered burials, and elaborate shell ornaments, The sites included are Delicias, El Capiral, Cerro de San Miguel, and Pepper's sites at Hacienda California. These sites are all in the immediate vicinity of Apatzingán and, with the exception of Cerro de San Miguel, are all burial sites. Apatzingán Grooved Brown ware is found at all of these sites but at no others. The exact status of sites in other parts of the area that have red-and-buff wares is uncertain, but they are probably affiliated with this complex. All whole *tapaderas* known are from this complex, but fragments were collected on the surface at El Chandio and La Palma. Whether these are typical of those sites is uncertain.

The Chandio complex is characterized by red-and-white wares, Chandio White-and-red ware, an abundance of pipes, walled platforms or pediments, and possibly cobble *yácatas*. El Chandio, Site 13, and Potrero del Malpaís definitely belong in the complex and La Palma may possibly be included. El Chandio is the type site for this complex and has been previously described. Site 13 is a cobble *yácata*. At Potrero del Malpaís the only outstanding ware was Marqués Red. All of the sherds were badly weathered but a few looked as if they were once covered with a thick white slip similar to that on Chandio White-and-red. Less weathered sherds may prove to be identical. One sherd of an unidentified type of red-and-white ware was also found. Slab-faced earth platforms and cobble *yácatas* are also present at Potrero del Malpaís. The exact affiliations of La Palma are uncertain but the presence there of pipes is indicative of connection with the Chandio complex. No pipes have been found in the Apatzingán complex, except one recorded by Pepper,[34] but in the Chandio complex they are very abundant at the type site. Over one hundred fragments were examined from La Palma alone. The place of cobble *yácatas* is uncertain, but they appear to belong to the Chandio complex as they are never associated with red-and-buff wares, excepting at Los Cimientos, and do occur with every find of red-and-white wares. Unfortunately, no burial site of this complex is known.

For an area in which so many different traits are found, it may seem premature to delineate two complexes on the basis of so few traits.

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[33] For a note on tentative conclusions of more recent work by Dr. Isabel Kelley see p. 5 above. [34] Pepper, 1916, p. 420.

However, when pottery was first used as a diagnostic trait it was found that the other traits fitted into the ceramic picture. The complexes are not intended to be rigid at the present time, but may be changed or elaborated as more information accumulates.

Los Cimientos is somewhat of a puzzle, as it apparently includes both complexes. All surface material collected fitted into the Apatzingán complex. But red-and-white wares ("teapot" and *cajetes pequeñas*) were found by pothunters in cobble *yácatas*. Both "teapot" vessels and *cajetes pequeñas* are found at Tzintzuntzan[35] in a late horizon so one can suppose that at least part of Los Cimientos is contemporaneous with Tzintzuntzan. One would also infer that the red-and-buff surface material is later than the excavated red-and-white material. This could hardly be the case, as such a theory would put red-and-buff wares well into Colonial times and no Spanish material has been found in this area in association with red-and-buff wares. What is more likely is that the material collected came from a section of the site where red-and-white wares may be found on the surface. This would have been very easy in a heavily wooded area about a kilometer square. This site will probably be the most important in the area for intensive excavation.

Although both the Apatzingán complex and the Chandio complex show a great amount of influence from the Michoacán highlands, only the Apatzingán complex appears to have been influenced from the south—that is, from the Guerrero and Oaxaca areas. This influence is particularly manifested in the slab-covered graves which exhibit a concern for burials that is not commonly shown throughout the Michoacán highlands but is shown to the south. The elaborate shell work, the specimen of "al fresco" ware from Delicias, Orange Lacquer ware, and pyrite mirrors, all occur farther south in Mexico and Guatemala.

Little is known about the relative dates of the two complexes. No stratigraphy is known as yet. The general impression received from the appearance of the various sites is that the sites in the Chandio complex are older than those in the Apatzingán complex. However, there is no concrete evidence that this is true.

"Aztec," or Valley of Mexico, culture seems to have had no influence of any importance here, as it did on the Upper Balsas. There are no pyramids, sculptured bas-reliefs or stelae, such as are found to the east in the Upper Balsas Valley.

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[35] Borbolla, 1941; Moedano, 1941.

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University of New Mexico
Albuquerque, New Mexico
June, 1942

AN ARCHAEOLOGIC RECONNAISSANCE IN SOUTHEASTERN MICHOACÁN, MEXICO

DOUGLAS OSBORNE

DURING the summer of 1939, Dr. D. D. Brand led a party of graduate students in anthropology into Mexico with the purpose of studying the archaeology of the state of Michoacán and adjacent areas. After preliminary examination of the better known ruins in the northern part of this state, the party broke up and each individual went into a previously determined area in southern Michoacán or neighboring Guerrero or Mexico.[1] The several resulting manuscripts are available in the Department of Anthropology at the University of New Mexico.

These men were, in most cases, the first to attempt an organized archaeologic survey and description of the sections that they worked. The area to be briefly described in this paper was that around the *villa* of Huetamo in the southeastern part of Michoacán. It included parts of Guerrero across the Cutzamala and Balsas Rivers.

This paper will be preliminary to a final report of all work done by the party which will appear at a later date. The map (Fig. 5) may be consulted as reference is made to place or itinerary. Twenty-three days were spent in the area in traveling on foot the main trails and side tracks of the region and in the regular business of mapping, surface collecting and photography incidental to an archaeologic survey.

Michoacán is divided by Miramontes into several physiographic regions.[2] The most northern strip falls into the *tierra templada* or temperate lands. Next comes a band of higher country, the *tierra fria* or cold lands. South of this, again, lies another narrow band of the *tierra templada*. With the exception of the Sierra de Coalcomán in the southwest corner of the state, noted for the luxuriance of its vegetation, the southern remainder of the state lies in the climatic region known as the *tierra caliente* or hot country. This includes almost one-half of the area of the state and is an inland extension of the Coastal Plain physiographic region. The Rio Grande de las Balsas and its tributaries drain the area and have, of course, been largely responsible for the conditioning of this remarkable tongue of lowland. There is some evidence, however, that the *tierra caliente* owes its present condition to ancient geologic

[1] Thanks are due to Arq. Ignacio Marquina, Instituto Nacional de Antropología e Historia, Direccion de Monumentos Prehispanicos, for permission to carry out the program and for furnishing an appropriate letter of introduction. It is not possible to mention all of those whose hospitality or information aided in the survey. I can only, as a whole, thank the good people of the Huetamo *tierra caliente*.

[2] Miramontes, 1936, Vol. IV, *Carta de Climas* and *Esquema de Regiones*

processes. The southern boundary of the northern bands of cold and temperate lands is an impressive and abrupt drop-off or scarp. This, coupled with the presence of the south lying lowlands, is highly suggestive of a graben or down-warped section of the earth's crust.

South of the Coalcomán highlands is the actual coastal strip of the *tierra caliente*. To the east of a central igneous mass, in the southeastern part of the state, lies that portion of the Balsas cuenca or basin with

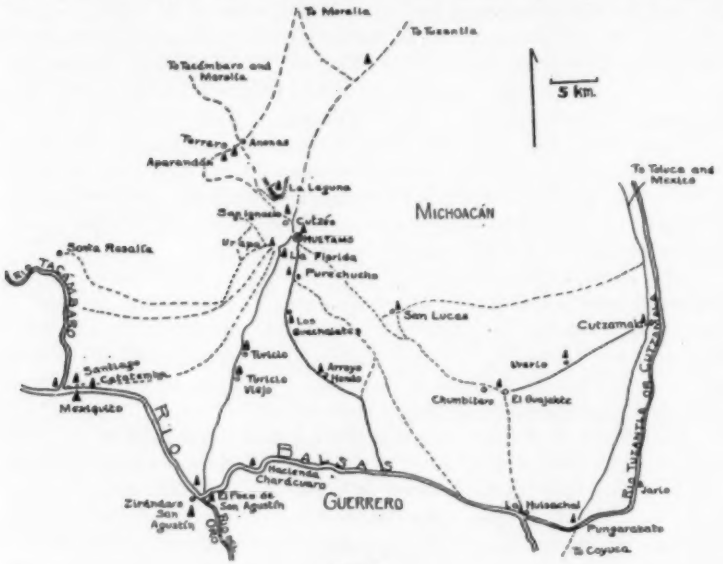


FIG. 5.

which we are principally concerned in this paper. It is the Huetamo-Cutzamala area (see map, Fig. 5). Climatically the area is a tropical savannah with wet summers. During the period of the reconnaissance the *tierra caliente* was experiencing a young drought. This was fortunate —there were only one or two cloudbursts during my stay.

This Huetamo section of the *tierra caliente* cuenca contrasts sharply with the other and volcanic sections. Here the rolling gravelly and clayey floors of the wide and open valleys mask the underlying tuff and schistose igneous rocks. Separating and forming these valleys are large high mesas running roughly north and south. These are Lower Cretaceous limestone and are seemingly remnants of a formation which probably once overlaid the whole of the lower and central parts of the

cuenca. The mesas, really flat-topped mountains, tower 400 to 600 meters (1300 to 2000 feet) above the valley floors. This height seems to give them a greater rainfall, and the rich limestone soil, coupled with this, supports a good jungle or tropical rain forest vegetation. In the more arid valleys, the open patterned savannah vegetation prevails. Here the thorny leguminous shrubs: *huisaches*, *espionosa*, *mimosa*, etc. form a most important section of the vegetal association. Larger forms, semi-tropical deciduous hardwoods, are scattered but common. This open patchy vegetation is further punctured with several types of cactus. Of these, the *organos* and the *nopales* are most numerous. A sparse herbaceous cover exists throughout, and the better watered areas, when these are not cultivated, form a good pasturage. The soils of the valleys are reddish and gravelly, but localized areas offer excellent and fertile developments. Corn, sesame, and hogs are perhaps the most important products of the prevailingly agricultural life. All of the drainage through the Huetamo area is southward to the Balsas.

The Huetamo section, like most of present day Michoacán, was in late pre-Spanish times seemingly under Tarascan domain. Coyucán is mentioned in Tarascan mythology as being one of the three seats of Tarascan power.[3] This is probably the town of Coyuca, now a scant thirty-five miles airline to the southeast of Huetamo. It was, in later times, an area of much dispute between the Tarascans and the Mexicans and their allies. During another and earlier phase, the Matlaltzincas (Pirindas) were said to have aided the Tarascans in war against the Aztecs. For this assistance they were granted a large area in central eastern Michoacán[4] to the north of the Huetamo area. A small island of Matlaltzinca is shown southwest of Huetamo by Mendizabal and Jiminez Moreno.[5] The word Huetamo is itself Matlaltzinca and there is still a "Pirinda" *barrio* (ward) in the town. We can thus be fairly certain that both the Tarascans and Matlaltzinca lived in the area.

The map shows the various trails and roads and the sites examined. Inasmuch as it is not my purpose to describe the archaeology of the Huetamo basin minutely it seems best to classify those sites found and describe one as typical for each class. After this preliminary covering, those finds which were to me the most interesting, may be treated: the stone carving in the San Agustín-Mexiquito-Santiago zone.

First, and near Huetamo, is Purechucho. The *yácata* (*yácata*—a frequently used Tarascan word means roughly "a pile of stones with earth" and is used as a generic term for mound, earthwork or tumulus) of Cútzeo belongs to the same class. Another was seen from the air near

[3] Osborne, 1941, p. 101. [4] Osborne, 1941, p. 103.
[5] Mendizabal and Jimenez Moreno, Map.

San Jerónimo, farther down the Balsas, while the party was flying out of the area. The Purechucho *yácata* consists primarily of a large patio or court surrounded by a continuous terraced, and probably solid, structure. The remnants of walls showed nearby. Figure 6 *e*, will give a good

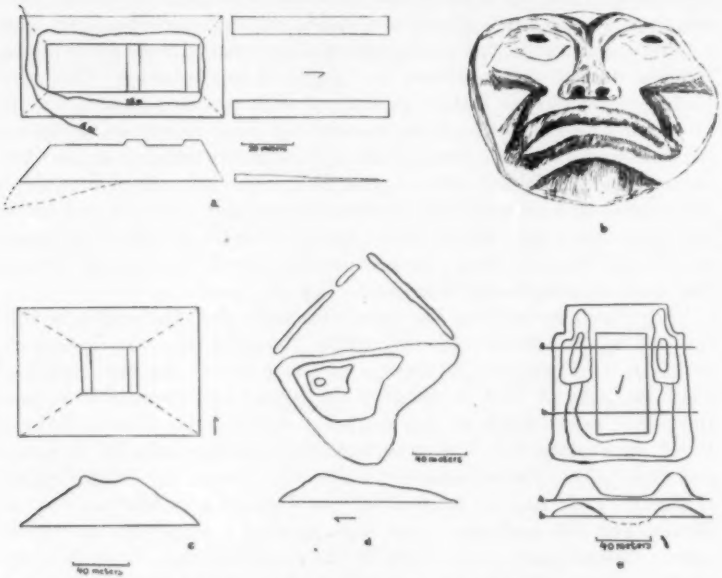


FIG. 6.—*a*, Cerro de la Laguna, large *yácata; b*, Heroic face at Santiago; *c*, La Huisachal, large *yácata; d*. Urapa, large *yácata; e*, Purechucho, *yácata*.

conception of the structure. The south end was elaborated and widened into two flat platforms, each with an upraised central section or dais. These were well plastered with a soft white stucco, as was probably the whole structure. Lines of rough stones can still be followed along the sides. These mark the edges of the treads of the steps or terraces of the old tumulus. Such architectural remains as these are entirely different from the usual run of pyramidal type mounds. The obvious suggestion, but certainly not a wholly defendable one, is that they were ball courts or game enclosures.

As with all of the ruins visited, broken single-flake knives were most common. A few projectile points made from these were also found. Two wares and several variants were ubiquitous.

Huetamo Red Ware Coarse, the most common, is a heavy red utility ware. The paste is reddish to greyish in the center of the thick sherds;

the temper is generally quartz sand. Most sherds were floated or roughly slipped and smoothed or rubbed. The thickness varies from one inch to one-quarter inch; the color is usually a dull red. This may weather or change to a brown or brown-orange as the float is weathered away or the locality changes. The forms include ollas, handled jars, bowls, three legged bowls, pitchers, *molcajetes* and one "gingerbread" figurine so badly weathered that one could hardly be certain of its finer outline. Rims are simple. Loop handles, and heavy conical long or short legs prevail. It would be difficult to distinguish some sherds of this ware from the modern utility wares of the area. On an average, about 60 per cent of the sherds of the sites around Huetamo, at Cerro de la Laguna, and around Zirándaro would fall under this heading.

Huetamo Red Ware Fine is the next most important type in the local ceramics. This is, in all respects, a finer edition of the ware previously described. The plastic and aplastic and the surface finish are all finer or more carefully or completely done. There is a greater but similar series in the rim forms. As would be expected, the distribution is the same. At the larger sites this ware comprises 20 to 30 per cent of the sherds found.

Cútzeo Polished Black Ware is included in a second division in the pottery classification; it is a ware almost identical with the fine red as far as paste and temper go. The vessels made in this ware have all been smudged or burned a black or greyish black. The exterior has received a good polish which sometimes varies to a burnish. The interiors are usually given a lick and a promise of the same. The forms seem to be wholly open. Rims are straight, and lug handles were used. Like Huetamo Fine, the sherds are not thick. The ware is rather rarer than the other two; it would not account for more than 6 to 15 per cent of the ceramics at any site. These major ceramic groups are represented for some distance to the north, at least as far as Tuzantla. They constitute the most important link between the cultures of the *tierra caliente* and those great groups in the north. More exploration must be done before an evaluation of this possible link can be made. Other wares or variants will be mentioned as we come to the sites of their occurrence.

Collections were almost non-existent in the Huetamo area. The only group of artifacts seen was found by some well diggers in Barrio Alto, Huetamo. The well had been dug to a depth of only about a meter when the discovery of a possible cache induced such superstitious imaginings that work was discontinued. Here were found several flattened spheroid type spindle whorls made from the fine variant of Huetamo Red Ware. These vary between four and five centimeters in diameter. A copper bell of common type about 2½ cm. long, sans tinkler, and pierced flat-bottomed hollow legs of large vessels, with clay pellet rattles were also found. Five tripod bowls of Huetamo Red Ware Coarse are

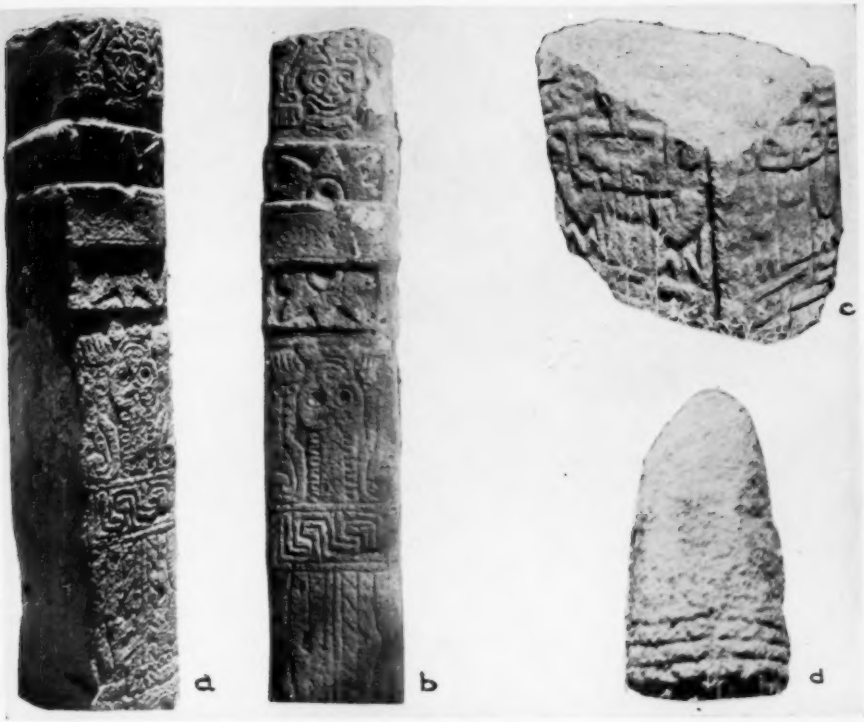
the most interesting objects. These are about 12 to 14 cm. high (the pointed legs around 8 cm. long, the bowls 6–8 cm. deep) and 16–18 cm. in diameter. They are most graceful and symmetrical in appearance.

About one kilometer west of Huetamo is the unusual *yácata* of Urapa (Figure 6, *d*). The long axis profile of this mound is decidedly wedge shaped and streamlined. Quite probably the slow ascent from the south is a long ramp. There is a small raised platform on the western side. At first examination it incorrectly appeared that both the western platform and the long ramp were the result of slump, perhaps caused by heavy rains and too high-angled sides. Another peculiarity is the triangular plaza formed by the two enclosing embankments on the eastern side. This enclosed area, now cultivated, is perfectly level. The earth wings are two to three meters high while the *yácata* itself is around twenty. There seems to be a heavy deposit of midden both to the east and west of the mound. This must mark an extensive village site.

To the north of Huetamo looms the Sierra de la Laguna, an excellent expression of the previously mentioned high, limestone, flat-topped mountains or mesas. At one time, a few generations ago, there was a small pond or lake in a central dip or vale on the plateau-like top of the Sierra. The headward cutting of an arroyo has since drained this lake outward to the south. Only five or six huts are now occupied on the sierra. This sparse population is not sufficient to till the fine residual limestone soil of the vale, around the edges of which, on the high rim of the mesa and in the impenetrable barrancas to the south and north, hundreds of meters above the valleys, grows typical tropical vegetation.

Hidden on this tower of limestone and ringed around by the green, growing wall, is a typical *tierra caliente* complex of stone and earthworks. There are four small hemispherical stone or earth *yácatas*. These are six to ten meters in diameter and vary around two meters in height. They support a heavy growth of small trees and bush. One earth *yácata* is almost completely plowed away. Another, a long low platform, is about seventy-five meters north-south by ten to twelve in east-west width. Several exposures of thick rubble walls show on the surface. This ruin is atypical; it probably marks the site of a large building. A rubble and adobe wall barely showing above ground cuts across a small tributary of the main arroyo and wings north and south for about forty meters each way. It may be the remains of an ancient erosion control project.

To the northwest at the edge of the valley is a small, soil-covered hillock about 100 meters high with a core of limestone. This hillock has been artificially altered; the sides are terraced and the top has been flattened and made into a platform. In the opposite end of the valley of La Laguna is a large typical truncated pyramidal *yácata*. It was cer-



a, Stella at Santiago; *b*, Stela at Santiago; *c*, Stela at Mexiquito; *d*, Phallic symbol at Mexiquito.

tainly the primary and grand structure of the group. As may be seen (Fig. 6, *a*) it fronts to the north. The main body of the pyramid (to use the term rather loosely) is almost 100 meters long by forty-five wide and fifteen to eighteen high. The northern end, or front, is crested by a ridge which is raised about two meters higher than the main body of the mound. This extension is around three meters deep. A similar ridge divides the *yácata* in its center. From near the northern end of the earthwork, two platforms extend northward about seventy-five meters. These are ten to twelve meters wide, two high, and are separated by a slightly sunken court. Stone lines peep from the brush and grass cover along the sides and ends of the *yácata*. They no doubt mark the edges of the steps or terraces of the structure. Immediately to the west of this large mound a narrow arroyo, the one responsible for most of the drainage and dissection of the valley, has incised itself to a depth of about two meters below the surface. In this, at the bottom, occurs a good deal of coarse heavy pottery which I have called La Laguna Buff. This ware is closely similar to Huetamo Red Ware Coarse in every way except that it lacks the red slip. It certainly appeared to be a ceramic type ancestral, or at least earlier than, the red ware. It does not occur on the surface. Strata, or lines along which the sherds were more numerous seemed to exist. Cultural debris probably went much deeper than I saw it. Huetamo Red Ware Coarse, Fine and Cútzeo Polished Black occurred on the surface in about the usual 60, 30, 10 per cent relationship. Show or decorative types were wanting. One three-legged bowl with loose clay ball tinklers in the legs (red ware fine) was found in the arroyo cut. Legless and rough worn metates and cylindrical manos were common.

The group, consisting of a large truncated pyramidal *yácata* associated with several smaller mounds and other types of earthworks, is not unusual in the area. Such groups were found at Urerio, the Hacienda Characuaro and Mexiquito. This latter is, however, worthy of later and separate description.

Southeast of Huetamo, across the sierras of San Lucas and Chumbítaro, lies the wide, open, valley of the Cutzamala River. In this valley, and its environs, were found two types of ruin groups. Near San Lucas, Chumbítaro and El Guajalote and at Pungarabato are evident village remains. Here exposures of heavy rubble-adobe walls fifty centimeters to a meter thick are common. Peculiar low platform *yácatas*, generally ten to fifteen meters long by six to ten broad, and about one meter high are numerous. These are flat on the top. It is likely that they were house pediments. Urerio, on this line of march, has been mentioned as the location of a typical mound group. Here was found the only figurine that I have seen from the area—the broken lower face and collar portion of

one of the "gingerbread" variety. There was also evidence of heavy and deep midden here—probably a large village site existed. Among the ruins of the Cutzamala Valley, particularly at Cutzamala, Pungarabato and La Huisachal were found several new ceramic types.

The first of these is Cutzamala Incised Black; this is the same ware as Cútzeo Polished Black, with the addition of bands of incised simple patterns below and near the rim; these geometric designs were cut into the ware after polishing. Although one piece was found on the trail south from Tuzantla, I consider this type to be primarily of the lower Cutzamala Valley. I have no knowledge of the extent of its distribution.

La Huisachal Incised Red falls into about the same class. It has, however, a more sandy plastic than the Huetamo Red Ware and a tendency toward an orange coloring. The incision on the straight sided bowls, the only form certainly noted, is similar to that on the Cutzamala Incised Black. It is, however, deeper and coarser.

La Huisachal Orange, found only at the site of that name, seems to be a variant of Huetamo Red Fine. The major difference is the presence of a heavy, usually well polished, orange slip. The shapes are certainly similar to those of the red ware with the notable addition of plate forms. This, plus the coloring and appearance of the ware, reminds one of the Aztec orange series.

Other than the numerous wall outlines and platform *yácatas* at Pungarabato and El Guajalote and the regular *yácata* complex at Urerio, there exist in the lower Cutzamala Valley three fine examples of the more classic type of truncated pryamidal mound.

As typical of the *yácatas* of Cutzamala, Jario and La Huisachal the latter may be briefly described. The location of the two pyramids of La Huisachal (Fig. 6, *c*) is one of the several which indicate ceremonial dependence of the valley Indian upon local fluvial geography. These two *yácatas* are slightly downstream from the Rio Cutzamala-Rio Balsas confluence. Here they tower above the present day ranchería of La Huisachal and the clustering remains of the archaeological village. The pyramids in the Cutzamala Valley were more nearly square than their western counterparts with the long north-south axis. That of La Huisachal was, however, longer east-west. This dimension must be about 140 meters, the breadth around 100 and the height thirty. The usual bits of stucco and the lines of stones show in and through the erosion-worn sides and suggest the ancient appearance of the structure.

As with the great *yácata* of La Laguna, and most of the other pyramidal structures visited, this of La Huisachal still showed that the upper surface or top of the mound had not been a simple platform. In Figure 6, *c* an attempt has been made to show the triple or rather divided-double platform arrangement which possibly existed. The side

elevation illustrates the present day condition of the summit. The accompanying wall remains were those of large rectangular structures. These cobble-rubble rectangles were often four-by-ten meters. A rather greater variety of ceramic types was found at La Huisachal than at other sites. About 50 per cent was the ubiquitous Huetamo Red Ware Coarse, 30 per cent Huetamo Red Ware Fine, 5 per cent Cutzamala Incised Black, 8 per cent La Huisachal Incised Red. About 7 per cent consisted of La Huisachal Orange. This last ware, taken together with the pyramidal *yácata*, is redolent of Mexican cultural influence. The *yácatas* and archaeological village of La Huisachal must cover a good twenty-five acres.

The Cutzamala-Balsas confluence is not the only one that can boast importance in the aboriginal scheme of things. Near Zirándaro, at the confluence of the Rio del Oro and the Balsas, in the Balsas upstream angle, is a series of built-up terraces. There are at least four levels with about a two-meter drop between the floors. The walls are of fitted igneous river pebbles with adobe cementing. It is possible that this terracing is the outward remnant of a fortification. The place is locally known as El Pozo de San Agustín.

Fifteen minutes' walk south of Zirándaro, at San Agustín, is a smaller edition of the La Huisachal type of mound. Here begins a subarea from which news of carved stones had reached the ears of our party several times while we were in northern Michoacán. This area runs downstream some thirty kilometers to the mouth of the Tacámbaro River and includes the Catatemba and Santiago areas, to the north of the Rio Balsas. Across from Santiago and slightly upstream, on the Guerrero side, is, so far as is known, the most remarkable archaeological structural agglomeration in that part of the Balsas cuenca. Here *yácatas* of the size of those at La Laguna and La Huisachal are commonplace. There are large enclosed plazas or courts. The Balsas river front is terraced or has been otherwise built up for almost 500 meters up and downstream. From the very water's edge an enormous *yácata*, probably partly artificial and partly an artificially altered natural feature, rises eighty to 100 meters. Its narrow platform top is connected by a causeway with a higher neighboring natural eminence. These are the Mexiquito ruins, so named from a group of six or eight peon huts which cluster along the river in the shadow of the great *yácatas*. It is wholly impossible for me, in the available space, to attempt a description of this archaeologic zone. It will be more adequately discussed in the later final report.

The second objective of this paper may now be approached, that of discussing with some thoroughness the stone carving of the Santiago-Mexiquito-San Agustín and Catatemba areas.

At San Agustín are two stone carvings well worthy of greater atten-

tion than I can give them. On the most important, a broken and fallen stela I can give no information. A combination of unlucky circumstances contributed to my failure to bring back an adequate record of its carvings. This stela, like all of the local stonework, is worked from a very hard white tuffaceous rhyolite. It is over two meters long by 50 cm. wide and 30 cm. thick. It must weigh about one-and-a-half tons. Set into the foundations of the San Agustín church is a crude stone head. The dimensions are 45×60 cm. The eyes are crudely cupped and the mouth is something of the coffee bean type. A band shows around the head, above the eyes. This head is considerably less well done than one to be described later. It is of a common primitive type in Mexico.

Lying beside the Zirandaro-Mexiquito trail, and to the southeast of the main Mexiquito ruin group, is a small broken section of what was once a large and finely carved stela (Pl. II, *c*). It is roughly 60 cm. high, 50 cm. across the face and 40 cm. thick. The carvings on all four faces are the same. The pattern represents, seemingly, some sort of stylized life form. I was unable to locate any more fragments of this stela.

A hundred meters or so down the west trail and on the opposite side is a large phallic symbol (Pl. II, *d*). It is about 55 cm. high and nearly 20 in diameter at the base. It tapers bluntly from this flat base around which three rings have been crudely carved. Nearby on a small linear *yácata* is an hexagonal natural column of tuffaceous rhyolite. It is about two meters long, 20 cm. thick at the base, and tapers gently. At the smaller end it is not more than 12 cm. thick. It was, no doubt, raw material for the pecking and carving of the aboriginal stone worker. I have no idea of the provenience of this column. It need not, however, be far distant in that igneous area.

Set in the center of the plaza of the small pueblo of Santiago, just across the river from Mexiquito, is the most remarkable single piece of stone carving that was seen in the *tierra caliente*. As with the broken piece previously mentioned, all four sides were identical. Two of these were badly defaced—possibly through natural causes and possibly through the misplaced zeal of some early Spanish religious. The other two sides were in good enough condition for photography. The two views, Plate II, *a* and *b*, give a fair idea of its appearance. It is not possible to state the depth to which this stela of rhyolite is planted in the earth; an upper portion appears to have been broken off. The present over-all height is, however, at least two meters; it is 35 to 40 cm. on a side. A somewhat better finish than usual is shown.

As to the carvings themselves, I am in something of a quandary. The four times repeated figure on the stela seems definitely reptilian or

piscine, probably the former. There are evidences that it was a quadruped. The scrolls on either side of the head and neck are probably the front legs. There are also definitely claw or paw-like representations on the sides of the face. The rear legs may be represented by some rather indistinct lines lying along the fishtail-like designs at the bottom. The greque which cuts across the center of the figure covers the body. The head does not yield any information. The cervical region seems, however, to be decidedly skeletal. I believe that the six small cupped projections from the main column represent vertebral processes. Below the greque extends a tail, very fish-like in appearance, if one considers it skeletal. A series of short parallel lines radiate backward from the one heavy and two light central lines. The end of this tail looks like a skeletal caudal fin. At each side of the parallel backward radiating lines are another pair of roughly parallel vertical lines. These have an irregularity in their approximate center. They might be interpreted as rear limbs, and the irregularity as the knee joint. The two cup-shaped depressions are similar to those at the wrist and along the cervical section of the carving. They may be taken as the carpals or the ends of the long bones —most likely the latter. I cannot account for the double tri-pronged affair which, with the band in the center, seems to separate the broken monument vertically into two symmetrical elements. It is slightly reminiscent of the two elements which appear near the bottom and one on each side of the main design on the piece of Mexiquito stela (Pl. II, *c*). These, however, seem more likely to be representations of claws. Whatever the stela may represent, or how near or far-fetched the interpretation has been, we can be reasonably sure that some sort of mythic being or entity is represented. My guess, slenderly based on the not illogical belief that the Balsas played a mighty part in things sacred to the aborigines of the area, would be that the creature represented some denizen, mythic or natural, of that river, possibly a caiman or fish.

Of hardly less interest is the heroic face, 26 to 28 cm. in diameter, set above the door of the city hall of Santiago (Fig. 6, *b*). It, like the stela, must have been removed from its archaeologic surroundings by some native Santiagueño who combined an archaeologic interest with a laudable if misplaced desire for civic adornment. The object has a strong appearance of a stylized death's head or mask. The way in which the corners of the mouth droop, the eyes protrude and the flesh seems sunken around the outstanding cheek bones leads to this belief. That it was carved by the same group, or one related to that which did the previously described stela, seems apparent when one considers the similar or identical treatment accorded the eyes, nose and mouth of the head

on the stela and the large face. A further relationship appears when one considers illustration 20 of Ortiz Rubio's *Historia de Michoacán.*[6] Again, similar treatment of the eyes, nose and the ridges over the eyes is noted. The use of heavy ridges to form the features is identical in all three sculpturings considered. This probable link with Catatemba proves interesting when one considers that the ruins in the locality, together with those of Mexiquito and San Agustín, may shortly be recognized as the seat of a hitherto unsuspected type of artistic development.

The pottery of the Mexiquito-Santiago area is generally usual. The coarse red ware would make up about 65 per cent of all sherds handled; the fine red, 25 and the Cútzeo Polished Black 5 per cent.

A first indication that elaborate or show wares were made in the Huetamo *tierra caliente* was encountered at Mexiquito. This was Mexiquito Red-on-white. A probable close variant of this ware was found at Cutzamala and Pungarabato. A three-legged bowl, probably of the same, had once been in the possession of a peon at Mexiquito. The interior had, he said, a complex design "like a tree with many branches." The paste of this ware is burned red. It has a decided grain and is dense and hard; the tempering is exceedingly fine, the little black and white specks can hardly be seen without a glass. The ware does not seem to have been slipped but was certainly smoothed and floated. The large elements of the design were first painted on in a creamy white. This shows a tendency to crack and scale. The red painting was then done. The pieces were well polished and the softer red has streaked slightly over the white. Both of the sherds collected are rim pieces and both show exterior and interior painting; a broad white band runs below the rim on the interior of both pieces.

One thing remains: a reference to the published material descriptive of sites near, or with remains similar to those which I have described. First come the Placeres del Oro finds. It may be noted that the Rio del Oro flows into the Balsas at Zirándaro at the ruins of Pozo de San Agustín. The Placeres, near which the remains described by Spinden were discovered, are on the upper reaches of the Arroyo Anonas, a tributary of the Rio del Oro. The fact that this find and the probably more important and extensive ruins of Mexiquito and Santiago are in the same drainage system and are not too far from one another would suggest interinfluence. A study, however, of the text and illustrations of Spinden's paper[7] on the Placeres del Oro finds reveals little that can be considered common to this latter and the Santiago or Mexiquito ma-

[6] Ortiz Rubio, 1920. This shows the large head of Catatemba.

[7] Spinden, 1911, p. 29 *et seq.*

terial. True, there is a basic similarity in technique and the workmanship at Santiago is somewhat similar to that at Placeres insofar as the treatment of the basically geometric forms goes. The same, however, may be said for a good deal of aboriginal American art. The use of the single heavy T-shaped element to outline or represent the eyebrows and nose is common to the Placeres, the Santiago and the Catatemba faces. This, again is not too unusual. Spinden's figure 13, page 40, gives what seems the best indication of a relationship. The grooving technique shown on the small heads is certainly repeated on the heroic face of Santiago. Not only the cheek features, etc. but also the right ear illustrate this well. The double guilloche shown on Slab B of Spinden and in Number 26 of Ortiz Rubio are similar. The photograph in the *Historia* does not do justice to the object. We can summarize by saying that while there is not any specific relationship between the Spinden material and mine, there is at least a generic one. More study might reveal an interesting connection. I join Spinden in bewailing the lack of ceramic reports from the upper reaches of the Rio del Oro.

The lack of archaeologic information, other than the scanty records from Placeres del Oro, from any area adjacent to the Huetamo *tierra caliente* makes it necessary to go farther afield in the search for similarities of form and type. The following few paragraphs will be especially concerned with the search for types similar to the carved stela of Santiago and the heroic face. Of course, more work in the field of Mexican archaeology may reveal links and actual connections now unsuspected. For the present, however, all that can be done is to present the findings which admittedly circumscribed research has made available.

Manuel Galindo[8] has illustrated a few carvings from Colima which, while less developed, are reminiscent of the heroic Santiago face. Both his Figures 4 (Hacienda de Pastores) and 7 (head in the lower middle) show a treatment of eyes or T-shaped eyebrow and nose which recall the carvings in question. It is peculiar that the carved rocks found by Caso[9] at Zacapú, while they illustrate a similar technique, have no similarity in the results achieved. A survey of the literature reveals nothing either within the generally accepted boundaries of Tarascan or Matlaltzincan culture which resembles my material.

With the exception of some of the Tlalocs, none of the material from the area of Mexican culture or influence seems to resemble the Santiago or Mexiquito stela or faces. There are, of course, certain basic patterns admittedly universal, and these can be discerned, as Spinden pointed out, over much of the area. I am inclined to ascribe the appearance of

[8] Galindo, 1922, pp. 165–178. [9] Caso, 1929, pp. 446–452.

some of the Tlalocs, certainly a highly varied group, to this. The same explanation may apply to certain stone heads photographed by Robert Lister near Teloloapan. These, a result of the same expedition which included the work here described, are on file at the University of New Mexico.

It is far to the southeast that an underlying similarity, and a superficial one as well, was found. For instance, Lothrop's *Zacualpa*[10] Figure 48 recalls the heroic face. Figures 60 (and others) illustrate the grooving technique on amulets (a technique noted for the Santiago face), something of the type of Spinden's Figure 13. Also gold plaques as Figure 68*b* are much like Spinden's Figure 10. Farther toward South America, in the area of Costa Rica and Nicaragua,[11] more illustrations of material reminiscent of Spinden's, and more remotely of mine, may be seen. Such illustrations as Plate IV*b* and Plate V, also CXV and CXVIII*a*, are cases in point. The similar use of the alligator, crab, and monkey motives, is much like that of Spinden's Figure 10.

Again from central Panama[12] come several illustrations which bring to mind the stela and face of Santiago. The crocodiles (alligators ?) in Figures 84, 87, and 96*a* and *f* are similar in the formation of the mouth eyes, and nose, to the Santiago faces. The V-shaped cheek elements, as used on the large Santiago face, appear in Lothrop's Figure 96. The profile crocodiles illustrated in Figures 154, 157, and 158 are closely similar to Spinden's 18. I would be inclined to interpret the latter somewhat in the terms of the former. In addition, a scanning of the literature will reveal numerous similar artifacts in and around Guatemala. The "sun image" illustrated on page 231 and described on 232, of Recinos' work is similar to the Santiago face. The nose-eyebrow element, chin and mouth are outstanding in their similarity.[13]

It is obvious that these similarities, if they are not fortuitous parallelisms or convergences, lead us still farther south toward northwestern South America—they have even now placed us within the range of that culture area. It is only natural that one should hesitate, as I do, to follow such a trail to its logical conclusion in spite of several theories now in more or less vogue which would bring a strong culture impetus from the south. Moreover, my distributional data are not of the best. Even to one relatively untrained in the unraveling and comparing of design, it does not appear fitted as foundational material for any very noble structure. If pressed for a suggestion, I should certainly point to the south and east, but only to within the depths of Guerrero and adjacent Oaxaca. There, the thinly explored and less known Mixtec remains loom in

[10] Lothrop, 1936. [11] Lothrop, 1926.
[12] Lothrop, 1937. [13] Recinos, 1913.

silent suggestiveness. Nothing, to my mind, is a more pressing problem in Mexican archaeology than that presented by the Mixteca, and a search for even more southern connections.

There will certainly be no intensive work done in the Huetamo *tierra caliente* for many years. I think, however, that enough has been said to illustrate the value such work would have. Adequate excavation at Mexiquito, La Laguna, or Hacienda Characuaro would, of course, involve large projects. Valuable and necessary work could be done with test trenching and small excavations at a number of the smaller or simpler sites, such as the *yácatas* and villages of La Huisachal or Urapa.

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A PRELIMINARY INVESTIGATION OF THE FLOOD PLAIN OF THE RIO GRANDE DE TÉRRABA, COSTA RICA

DORIS STONE

THE Cordillera de Talamanca, the principal mountain range in southeastern Costa Rica, is a rugged chain which overlies, in part at least, an earlier volcanic mass,[1] and is directly connected with the Chiriqui range of western Panama.[2] The Pacific Ocean is, as the crow flies, a comparatively short distance from the Talamancan peaks. From the Rio Savegre in the southwest to the Rio Chiriqui Viejo in Panama runs a smaller parallel chain, known as the Pacific coastal range. These mountains come in almost direct contact with the sea, as a number of low spurs stretch southward across the rich alluvial plain which faces the ocean. This whole southeastern section of Costa Rica, from the southwestern portion of the Cordillera de Talamanca southward to the sea, including the region west to the Rio Parrita[3] and east to the Rio Chiriqui Viejo, is geologically and geographically one.

FIG. 7.—Southeast Coast of Costa Rica, showing locations mentioned in paper.

The largest basin in the southeastern Costa Rican area, and what appears to be culturally the most important, is that of the Rio Grande de Térraba (Fig. 7). Known also as the Rio Coto,[4] Rio General,[5] and the Rio Diquis,[6] the Térraba drains the General Valley, which is sandwiched in the western portion of the above mentioned ranges, and also, through its confluence with the Rio Chirripó, the Chirripó valley in the Talamancan range. Present-day usage, however, places the name Rio Grande

[1] Schuchert, 1937, p. 597. [2] *Ibid.*, p. 594.

[3] There is an alternative spelling of Parita.

[4] Peralta, 1938, p. 425. Peralta fails to give the source from which he derives this information. There is a Rio Coto which empties into the Golfo Dulce not far from the Panamanian border. There is a possibility that Peralta was mistaken in applying the name Coto to the Térraba. [5] Zeledón, 1908.

[6] Lehmann, 1920, b. 1, pp. 195, 219.

de Térraba only on the river formed by the junction of the Rio Chirripó with the Rio Buena Vista which runs through the General Valley.

The region of the Térraba[7] is the home of the Boruca or Brunca Indians. According to Peralta, the Borucas are the descendants of the Cotos, who were traditionally enemies of the Quepos Indians.[8] He places the Boruca east of the Térraba River, and points out that the Cotos no longer exist, but that the Térraba Indians were transported from the north to the town of Térraba in 1697.[9] Pittier, although not actually mentioning the combination which forms the Borucas, is of the opinion that these people are the result of a union of groups "originally of distinct origin and tongue."[10] Lehmann, however, believes that the Boruca Indians we know today are descendants of the Coto, Turucaca, Burucac, and Quepo peoples.[11] From the available material, it seems safe to accept the fact that the Borucas we now find are a mixture of the tribes who at the time of the Conquest inhabited this southeastern area.[12] Because of this, it is difficult and risky to surmise the exact people responsible for the archaeological remains in the Térraba region. Certainly, as Lehmann concludes, the tribes inhabiting this area, although possessing an "original common centrum,"[13] had developed individual cultural peculiarities. Indeed, Lehmann mentions a tradition given by Pittier which recounts that the Boruca had once "subjugated the *pueblos* along the coast in long and costly wars."[14] At the time this tradition had its start, the Boruca appear to have been confined to the General Valley. Just to whom these *pueblos* belonged, we cannot say.

The great flood plain of the Rio Grande de Térraba, however, is too rich a region not to have long been the scene of many settlements. And, as we might expect, it is an area with definite archaeological characteristics.[15] The outstanding feature of the Térraba plain consists of sites with solid stone balls of various sizes. The writer examined three of these sites in April, 1940, and two in July, 1941. A similar group is reported to be in the adjoining plain of Uvita near the town of the same name. Stone balls are also said to exist in the flood plain of the Esquina River. This plain connects with the Osa peninsula.

[7] This is speaking in the broad sense and includes the General Valley, not the Chirripó Valley. [8] Peralta, 1938, pp. 424–425.

[9] *Ibid.*, p. 425. [10] Pittier, 1941, p. 7.

[11] Lehmann, 1920, b. 1, pp. 151, 195.

[12] See also: Vásquez de Coronado, 1908; Fernández Guardia, 1905–1908; Fernández León, 1881–1907, t. 1–10; de Peralta, 1900.

[13] Lehmann, 1920, b. 1, p. 154. [14] *Ibid.*, p. 195.

[15] Dr. J. Alden Mason notices and emphasizes the individuality of the region of the lower Térraba in a short paragraph in his unpublished classification of the Minor C. Keith collection, p. 281.

The mounds in the Térraba plain (Pl. III, *a*) are apparently living mounds—villages, raised on low earthen beds faced on the sides with unworked stones to protect what were probably mud or cane huts from the rise of the neighboring brooks and the Térraba River itself. There is usually a stream bed near these groups. The whole area is surrounded and covered by typical rain forest vegetation, making an investigation impossible without considerable clearing of the dense underbrush. The writer knows of no authentic burial in this flood plain region. The same is also true of the mound group examined on one of the low foothills or spurs. Here too, there is heavy jungle growth and rich dark soil.

Nearly every mound in the west coast region has been disturbed by *huaqueros* or pothunters looking for gold. Very often the contents of the mound are smashed, or carelessly flung aside by the plunderers who were presumably annoyed by ceramics and stone work. Occasionally a mound has been allowed to retain its original shape, although one finds test pits that have been dug in a futile effort to discover treasure.

El Pozo, today called Puerto Cortes, is the highest navigable point, for all craft save dugouts, on the Rio Grande de Térraba. El Pozo is about five or six kilometers from the Indian town of El Palmar farther up the river.[16] The Boruca, who inhabit this village, have changed its site twice in the past six years because they do not like to mix with non-Indian peoples, and the advent of the United Fruit Company into this territory has disturbed their isolation. The present United Fruit town of El Palmar is on the eastern bank of the river, directly south of the Indian town. The whole region now occupied by the Fruit Company quarters gives evidence of having once been a large settlement.

A few low hills come down into this area. At the foot of one of these, behind the hospital, are the remains of a stone dump heap or quarry with a quantity of figures half finished or broken. The subjects of these figures are both human and animal, monkeys and jaguars being the most common. There are, however, a few tapirs and birds, found both as independent sculpture and as decorations on stone seats or metates. The human figures are of two kinds. One is a short heavy type squatting on a low stone pedestal (Pl. III, *d*) which serves as a peg to support the statue upright, if this lower part is placed in the earth. The other is an elongated, highly conventionalized male with narrow slits between the armpits and the knee. This second type is similar to certain

[16] This cannot be the Palmar mentioned by Dr. Lothrop in his list of southern Costa Rican sites, and located by him on his site map of Costa Rica. See Lothrop, 1926, Vol. 2, Pl. CC. The Palmar on his map is in the General Valley.

[STONE] PLATE III
AMERICAN ANTIQUITY, VOL. IX

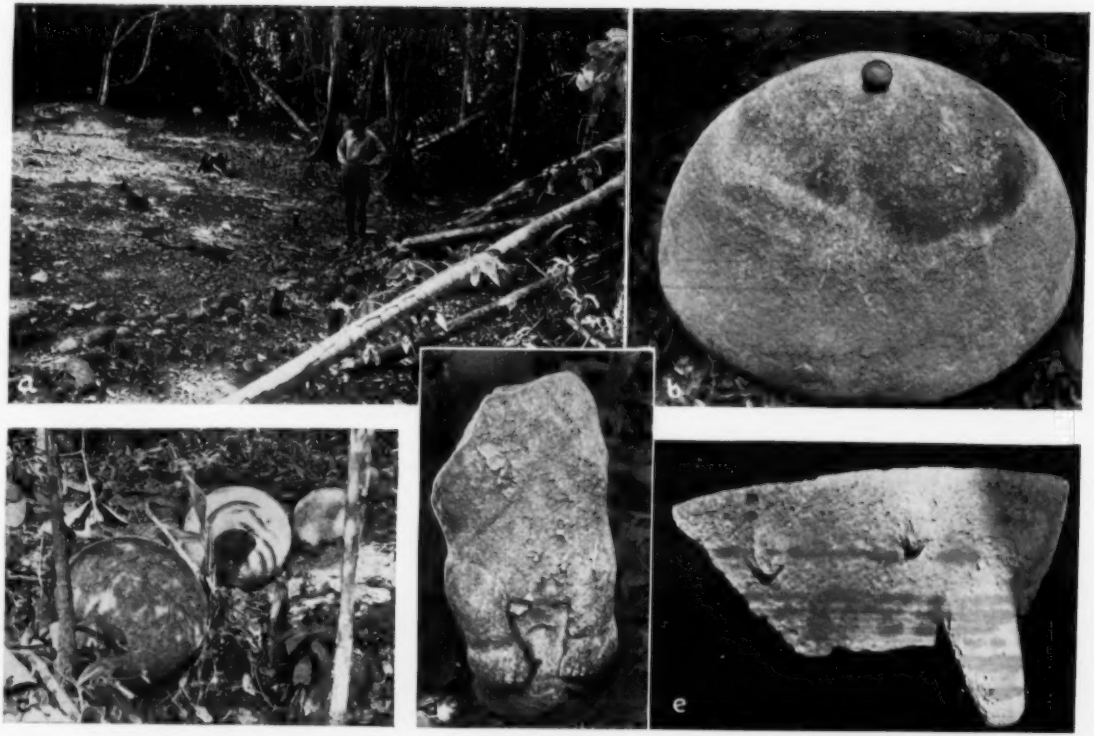

Photo: Roger T. Stone

Farm 2. a, Mound, this is a typical village mound of the Térraba plain; b, largest and smallest balls at Farm 2; c, balls three on mound; d, decapitated male figure; e, underside of broken metate.

Photo: Thomas Dunn

Farms 5 and 7. *a*, balls in front of mound on Farm 5; *b*, cross section through another mound of group on Farm 5; *c*, stone animal near mound; *d*, *e*, animals in front of a third mound on Farm 5; *f*, large ball on Farm 7 before excavation; *g*, pair of smaller balls, Farm 7; *h*, large balls removed from irrigation ditch, Farm 7.

stone figures from Las Mercedes.[17] Besides this dump or quarry, there is at the southeast an adjoining group of five mounds.

Not over two miles farther to the southeast, on what is now Farm 2, is a larger group of mounds. These also have both carved figures and stone balls. These figures, however, are not in a heap but are lying on the surface of the mounds. Three of the large balls were also found on a mound (Fig. 8) but four other large balls were encountered on the

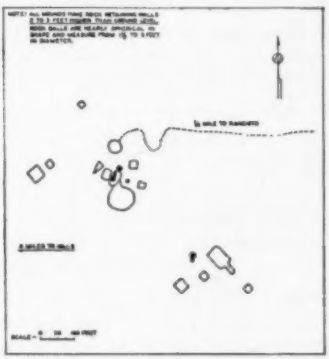

FIG. 8.—Mounds on Farm 2 showing location of stone balls.

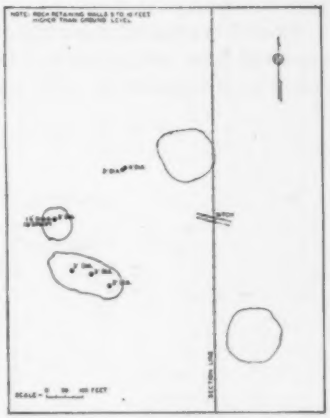

FIG. 9.—Mounds on Farm 4 showing location of stone balls.

ground nearby. Near this group of four was a small ball, hand-size (Pl. III, *b*). Its original position is unknown, as it had obviously been moved by *huaqueros*. In the photograph, it is placed on top of the largest ball to show the contrast in size. Plate III, *c* shows a group of three balls which were found on a mound. Along with these was the broken metate in Plate III, *e* and also two stone metate or seat legs, about eighteen inches in length and decorated with a buzzard or eagle head. These legs are not pictured here, but are reminiscent of legs from stone seats found in Paya country on the northeastern coast of Honduras. The heavy, decapitated nude male on a short pedestal (Pl. III, *d*), a tapir (not pictured), and two pieces of another animal figure, all of stone, were likewise found at this site.

A ten-foot excavation into one of the mounds revealed only a few

[17] Lothrop, 1926, Pl. CCV, Fig. a.

pieces of monochrome pottery. Some sherds with a white slip and red and black stripes were lying on and near the surface mixed with a quantity of plain pieces.

Within three miles of this site is another similar group, located near section 66 on Farm 4 (Fig. 9). These mounds are a trifle higher than those on Farm 2, but have the same irregular shapes and method of construction. When the writer visited this site in 1939 there were three elongated male figures of stone lying on the mounds. In 1940, however, these had disappeared.

Farm 5, section 33, has a mound group with the mounds fairly widely separated from one another. The largest mound is approximately 40 meters in circumference, with an encircling ring of rocks to keep the

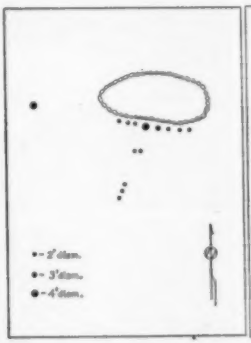

FIG. 10.—Mound with fourteen balls on Farm 5.

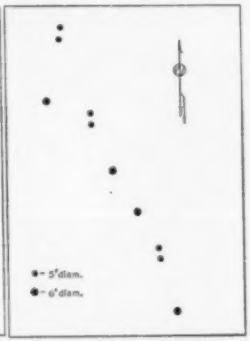

FIG. 11.—Ten large balls on Farm 7.

earth in place. There are fourteen stone balls associated with this mound. Eight of these were in a line on the south side of the mound (Fig. 10 and Pl. IV, *a*). Two of the balls had been moved out of line at the time that the picture reproduced in Plate IV, *a* was taken, while only a portion of the ball in the lower right hand corner had been uncovered. The three balls at both ends of this line are two feet in diameter, with the center balls three and four feet respectively, reading from east to west. About ten meters farther southward, side by side, are two balls two feet in diameter. Three balls of the same size are in a single line about fifteen meters beyond the two, while a single ball four feet in diameter lies west of the eight balls.

Also belonging to the same mound group is the mound shown in

Plate IV, *b*. This mound differs from the mound shown in Figure 10 by having a covering of stones over the entire surface to keep the earth in place. The line of stones on the left side of the ditch is merely a continuation of the original structure, and presents an idea of the large size and yet relatively crude workmanship of the mound. In this vicinity, Mr. Thomas Dunn found the stone animal (Plate IV, *c*).

Southeast of the mound shown in Plate IV, *b* is a large mound directly in front of which are the two stone animals pictured in *d*, and *e* of the same Plate. That in *d* might be a *tigre*, and that in *e*, a *danto*. These are the largest stone animals yet found in the Térraba plain. The *tigre* in *d*, for example, is approximately four feet high at the head, and can be moved only slightly by two men. Three balls, three feet in diameter, lie in a single line at the south side of this mound.

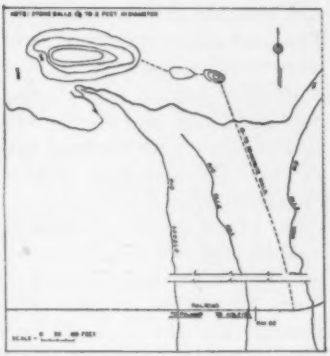

FIG. 12.—Mounds at Olla showing location of stone balls.

Farm 7, also visited in July, 1941, has probably the most unusual arrangement of balls and the largest yet encountered. Within a space of approximately 300 yards are ten stone balls placed on what might be termed a north-northwest south-southeast axis, yet not in a straight, but in a slightly curved line. This group includes four balls almost six feet in diameter (Fig. 11). These larger balls appear singly, and it will be noticed after a glance at Figure 11 that one of these stands well to the west of the whole group. Plate IV, *f* shows a large ball as it was before excavation, and Plate IV, *h* shows a drag-line completing the removal of a ball from the line of an irrigation ditch. The balls paired are smaller, approximately five feet in diameter (Pl. IV, *g*).

Farther to the northeast, and again at the start of the foothills, is another mound group with stone balls (Fig. 12). This site is ambiguously called La Olla.[18] The distinguishing points of its location are the Rio Sabalo and kilometer 62 on the main line of the railroad. The low hills run from east to west, the mounds being found on the hills. Excavation revealed some beautifully worked stone adzes, and a large amount of

[18] All through the Térraba plain, any number of places called "La Olla" are to be found.

monochrome pottery, which in a number of cases had already been disturbed by gold seekers, some vessels even lying on the surface.

We shall examine more fully the La Olla pottery because it is typical of the ceramics of this area, and it is in the pottery more than in the stonework that the presence of outside traits, or the relationship of this southeastern culture to other cultures is apparent.

The intrusion of outside traits is evident in the eastern and western border sections, that is, in the region of Parrita where the influences of the Candelaria area and of Nicoya are prevalent, and in eastern Chiriqui and Veraguas. This intrusion is most marked in the polychrome pottery. The most common ceramic style of the area as a whole is a monochrome ware with appliqué (Pl. V, *a*, *b*, *d*), and simple geometric incised designs. This type of pottery can be traced into the northern portion of South America, and northwestward into the Paya region of Honduras. Tripod pieces with appliqué designs (Pl. V, *a*) make up the majority of the La Olla collection. Similar tripod ware has been found at Las Mercedes on the north coast.[19] It has also been found by the writer on Caño Island off the Térraba coast.[20] Among this monochrome group from La Olla were fragments of oval vessels without legs, which resemble specimens described by Dr. Lothrop as common to the Boruca area of Costa Rica.[21] The majority of the monochrome vessels are of the same general type (Pl. V, *a–d*), decorated by the application of notched fillets and nodes, as that found in Honduras in country which is historically Paya. The elongated legs (Pl. V, *a*, Pl. VI, *c*) of the Térraba pieces are identical with specimens from Chiriqui, Panama, and related ware has been found in northern South America.[22] The Paya area of Honduras, although occasionally producing a vessel with elongated legs, has on the whole shorter tripod types.[23] The few polychrome vessels and sherds, too few to permit any deductions, were white-slipped, conventionalized, and bore geometric patterns in black and red.

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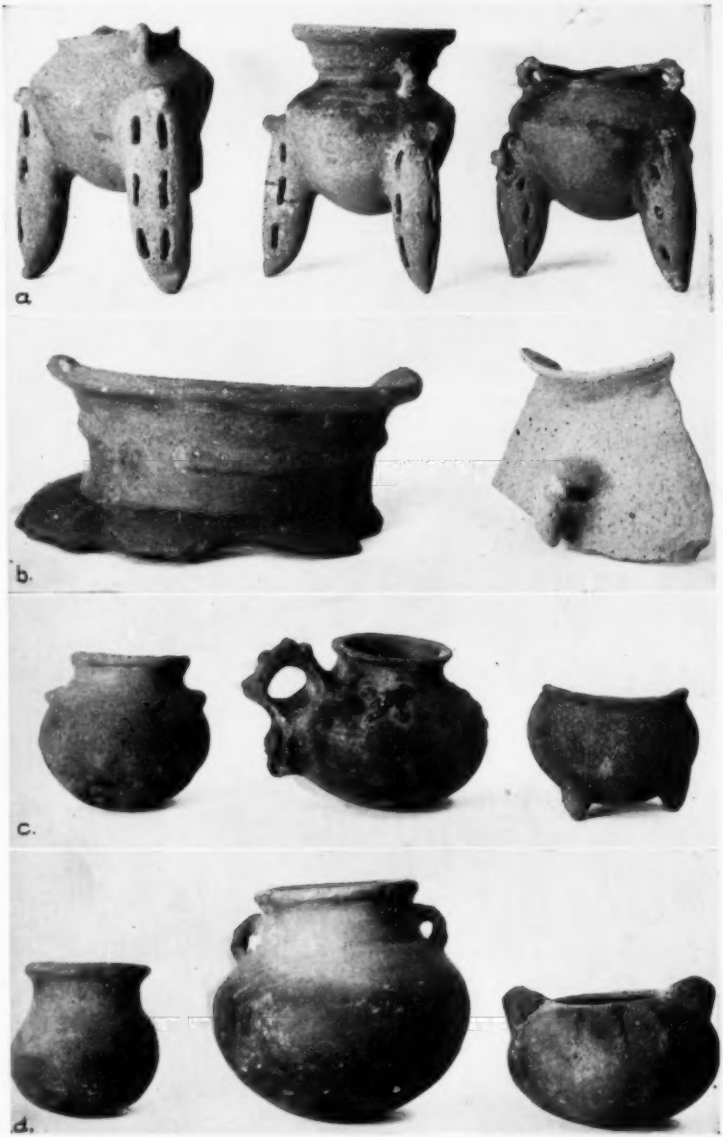
[19] Lothrop, 1926, Vol. 2, Pl. CLXXV.

[20] Reports are prevalent among the local inhabitants of the Térraba region that the Indians of the mainland were accustomed to bury their dead on Caño Island. Although the writer saw many mounds, most of them were located on the sides of streams and appear to have been village sites. If there were burials farther in the interior, the writer did not seem them. [21] Lothrop, 1926, Vol. 2, Pl. CXCII, Fig. c.

[22] Compare Plate V, *a*, Plate VI, *c*, with Verneau & Rivet, 1922, Pl. XXXIX, Figs. 1–7.

[23] This is probably due to localization. Dr. Boas emphasizes the point of regional style when he writes that the fundamental object of an art style is to be found in the "technical and formal motives that are common to a large area, although differing in details in its provinces." See Boas, 1940, p. 544.



Photos: Peabody Museum of Harvard University

Monochrome pottery of the Térraba plain: *a*, tripod monochrome appliqué ware, La Olla; *b*, monochrome rim sherds, La Olla; *c*, monochrome ware, La Olla, form of central vessel suggests similar shapes from Veraguas and Coclé; *d*, La Olla, types similar to Paya monochrome from Honduras.

Photos: a, Roger T. Stone; b, National Geographic Society; c, Peabody Museum

a, Stone bowl with raised base, La Olla, Costa Rica; *b*, stone ball found at Cerro de la Mesa, Vera Cruz; *c*, elongated leg of tripod vessel from the Térraba plain.

Here at La Olla also were numerous examples of stonework, seats, metates, and bowls, lying about. The sizes ranged from miniature to three feet. Some were plain; others had animal heads. Most were three-legged or on raised bases, as in Plate VI, *a*. Counterparts to the majority of these pieces can be found in the Paya region. There were, however, several seats with jaguar heads and four legs bent at the knee. These have tails which connect with one foot and conveniently serve as a handle. Generally, a decorated rim surrounds the edge of the seat.[24] These seats are similar to those found in graves in the vicinity of the present town of Boruca. An interesting description of what may be a copy of such pieces is found in the account of Henri Pittier, who visited the Borucas and explored part of the Térraba section in the late nineteenth century. The following is a translation of this passage.[25]

"The primitive seat is a light piece of wood, like balsa or cedar, flattened on top, which rests on four feet carved of the same wood; these benches are very low. They have very often the shape of an animal, as have the grinding stones which are taken out of the graves. In Boruca, they always have at the end, an appendage which imitates the tail of an animal and serves as a handle to grasp the seat."

The quarry or dump at El Palmar is not too easily explained. Hartman reports what may be similar heaps at Las Mercedes on the Caribbean side.[26] Dr. Spinden found broken figures and seats on the Plantain River on the northeast coast of Honduras.[27] This is Paya country.

Likewise the large and heavy stone animals from Farm 5 are unique in this area, and as yet we can offer no suitable explanation for their presence. The square-like massive cut of the *tigre*, and the peg arrangement of the neck of the *danto* are, however, in keeping with the general style of the stone figures found in the Térraba region. Their size may be the same variation already noted in the size of the balls, and may be due to a ceremonial usage.

By far the most important and distinct problem, however, is that of the stone balls. They have a wide distribution, ranging from Patagonia northward, including sections of the Antilles, into Tennessee. In South America, the reports of stone balls are too numerous to list

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[24] For similar pieces see: Hartman, 1901, Pl. 56, Fig. 3; Lines, 1938, p. 12, Fig. 8.

[25] Pittier, 1891, p. 81. " . . . El asiento primitivo es un pedazo de madera liviana, como la balsa ó el cedro, achatado encima, el cual descansa en cuatro patas labradas en la misma madera; estos escabeles son muy bajos, tienen muy á menudo la forma de un animal, como sucede con las piedras de moler que se sacan de los entierros. En Boruca siempre tienen en un extremo un apéndice que imita el rabo de un animal y sirve de mango para coger el asiento."

[26] Hartman, 1901. [27] Spinden, 1925.

individually.[28] The balls themselves vary, for the most part, from 32 to 84 mm. in diameter,[29] and are known as *boleadoras*, being generally considered to have been used in the *bolo*.

In the Antilles, balls, all of them small, have been found at Haiti[30] and Puerto Rico.[31]

Continuing up the mainland from South America, we find small balls in the Meseta Central of Costa Rica[32] and in the north coast region,[33] at Tenampua[34] in the Comayagua Valley in the interior of Honduras, and at Travesia in the Sula-Ulúa plain.[35] At Benque Viejo, British Honduras, two granite balls approximately 56 cm. in diameter are reported by J. Eric Thompson.[36] These balls were on a leveled area, and Thompson believes them to be ceremonial. It is interesting that no hard stone exists in a natural state either at Benque Viejo or in the Térraba plain. The British Honduras balls, however, are not as well made, not as perfectly spherical as the Térraba balls. It should be remembered also that many of the British Honduras Maya were seafaring traders who frequented the coastal area of at least western Central America. The presence of these balls in the British Honduras region may be an example of the adaptation of a ceremonial trait by an alien people. This trait could have been brought to British Honduras by traders from Honduras, where there is evidence of Costa Rican influence and people,[37] or even from Costa Rica itself. Farther north, at Cerro de la Mesa, Vera Cruz, Mexico, Dr. Stirling found a single large,

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[28] For example, see: Ambrosetti, 1906, pp. 152 and 153, Fig. 151, 1908, Fig. 231, p. 442, p. 443, Fig. 232, p. 444; Ameghino, 1915, p. 184; Lafone-Quevedo, 1906, Pl. XVI, Figs. 9–10; Outes, 1910–1911, p. 337, 1905, pp. 203–575; Verneau et Rivet, 1912, p. 180, Figs. 34, 35*a*; Verneau, 1903, p. 283.

[29] Verneau, 1903, p. 283, reports a "ball" 137 mm. long by 112 mm. wide. This has a groove down the middle, and is obviously a *boleador*.

[30] Rouse, 1939, p. 42, fn. 2, Pl. I, Fig. 9.

[31] Fewkes, 1907, p. 110 and Pl. XXXI, e, t, g. Although Fewkes opens this section with the assertion that the "stone balls vary from the size of a marble to two feet in diameter," he contradicts himself on the same page by writing "These balls, varying from the size of a marble to several inches in diameter." The opinion of persons who are familiar with Puerto Rican archaeology, and who were consulted by the writer in connection with the above mentioned report of Fewkes, is that the second statement is the true fact, and that no two-foot ball has yet been found on Puerto Rico. It should be noticed furthermore that Fewkes' illustrations are all of small balls.

[32] Balls one and two feet in diameter have been found in the vicinity of Barba in the western section of the Meseta. [33] Hartman, 1901, Pl. IV, Figs. 6, 7.

[34] Popenoe, 1936, pp. 569–570. Mrs. Popenoe suggests that these balls may have been rounded by the action of river water.

[35] Stone, 1941. [36] Thompson, 1940, Pl. 4*e*.

[37] Stone, 1941.

hand-made stone ball (Pl. VI, *b*).[38] Carlos Gagini,[39] writing on the aborigines of Costa Rica, mentions stone disks which he found among the Tepehuanes and Tarahumares of Chihuahua in Mexico. These were used in a ball game.

In the United States, small balls occur in New Mexico,[40] Arizona,[41] California,[42] Tennessee,[43] and Ohio.[44] Archaeologically, the outstanding characteristic of this whole southeastern area of Costa Rica is the stone balls of the Térraba plain.

Nowhere has the writer been able to find a report of large stone balls in the quantity in which they appear here. The majority are obviously too large to have been thrown, although there is, of course, the possibility of a ceremonial or calendrical use. A glance at the maps of the sites at which stone balls are found reveals neither a similarity in the position of the balls, nor any uniformity in the sizes placed together. The nearest approach to consistency is the arrangement of many of the large balls in three's and two's. Even this cannot be taken too seriously when one remembers the divers sizes of small balls which have been found mixed with the larger ones and the ten large balls in pairs and singly on Farm 7. Investigation of more stone ball sites is needed before we have any definite clue as to their purpose. For the present, we can only point to these balls as an example of the development of individual sectional traits which are apt to appear in regions where a variety of influences comes into being. This can be brought about either through trade or cultural amalgamation, or when, as Lehmann suggests, the underlying culture is so old that the people have developed "their own typical characteristics contrary to the original common centrum".[45]

Interestingly enough, this whole southeastern area appears to have been inhabited by tribes linguistically related. A relationship is noticeable also between these languages and the Chibcha languages of northern South America.[46] Lehmann has called attention to a still further relationship of the Chibcha languages with the Paya of Honduras.[47] Nevertheless, for the time being, the Paya must remain linguistically a controversial subject.[48]

From the evidence presented in this paper, it would seem that the

[38] Information supplied to the writer by Dr. Matthew Stirling of the Smithsonian Institution, Washington, D. C.

[39] Gagini, 1917, p. 58. [40] Hewett, 1908, p. 85.

[41] Hough, 1903, p. 322, Pl. 55, Fig. 6; Fewkes, 1904, p. 183.

[42] Harrington, 1928, p. 90, Pl. 14, *b*. [43] Putnam, 1880, p. 344, Fig. 33.

[44] Fowke, 1896, p. 94, 95, Fig. 92. Fowke classifies these balls under "Hammerstones." [45] Lehmann, 1920, b. 1, p. 154.

[46] *Ibid.*; Mason, 1940, pp. 59 and 76. [47] Lehmann, 1920, b. 1, pp. 66–67.

[48] Compare Sapir, 1929, pp. 138–41; Mason, 1940, p. 74; Johnson, 1940, p. 113.

conclusions of the linguists, which have been given above, are brought out by the findings of the archaeologists. These conclusions regarding the linguistic relationships of the peoples who formerly inhabited the southeastern section of Costa Rica, the Coto, Quepo, Turucaca, Burucac, the Huetar of northern and more western Costa Rica, the Chiriqui of Panama who bordered on this region, and certain tribes of northern South America have been given more support through the presence of similar artifacts in the various sections of Honduras, Costa Rica, Panama, and South America discussed above. An archaeological survey, therefore, tends to strengthen this relationship, showing similar ceramics and stonework[49] extending throughout this area. There are, of course, sectional differences[50] resulting in individual characteristics. Basically, however, there does exist an archaeological relationship among these regions.

Students have believed for many years that the Chibchan tribes of Central America had moved northward from Colombia. We, however, question this on several grounds. The acceptance of this belief presupposes South America to have produced this culture. As a matter of fact, there is no definite proof of a South American "homesite" of the monochrome ceramics so typical of the Térraba plain, much of the Huetar pottery, and the historically Paya country of Honduras. On the other hand, the archaeology of the area which according to historical records was Paya is surprisingly free of either outside pieces or mixed traits. Within this region in Honduras it is difficult to find ceramics or stonework which are not uniform and which do not conform to specimens excavated from historical Paya sites.[51] This fact makes it easier to set apart the culture of the Paya region than, for example, Térraba culture, which has both the unusual large stone balls and the polychrome ceramic intrusions which have been noted earlier.

Furthermore, this monochrome ware, which is so basically a part of the areas under discussion, has a very widespread distribution.[52] On the

[49] Stone, 1941, p. 95. [50] E.g., see Lehmann, 1920, b. 1, p. 154.

[51] There are, of course, the slightly different pieces of Costa Rican-like character to be found at Guaimoreta, Honduras, for example, and at certain spots on the shoreline of the Bay Islands (see Stone, 1941). This culture, although it has not appeared so far in historical Paya sites, is, nevertheless, closely related to the archaeology of such sites, and like this type of culture has kindred patterns in Costa Rica (see Stone, 1941).

[52] Compare, for example: Verneau et Rivet, 1922, t. 6, Deuxiéme Fascicule, Pl. XXXIX, Figs. 1–7. This is pottery from Ecuador. Rouse, 1939, Pl. 3, Figs. 1–18; Pl. 4, Figs. 6–8; Pl. 5, Figs. 1–5, 11–18. This is pottery from Haiti. Rouse classifies some of these as "Meillac" types and others as "Carrier" types (1939, pp. 199–202). To "Meillac" types he gives a supposedly North American origin (1940, p. 62). The "Carrier" type he relates to both the "Meillac" type and a type called "Cuevas" of supposedly South

mainland of Central America, however, there is nothing, in the opinion of the writer, which points definitely to a late appearance of this monochrome ware which the writer feels is inherently a part of Macro-Chibchan culture. Rather than admit a definite migration from South America, or a time element of lateness, the writer prefers to think of this particular monochrome pattern as forming one of the basic ceramic traits in Central America. We do not believe that there yet exists sufficient proof for a migration in either direction, from Central America southward or from South America toward Central America.

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American origin (*Ibid.*, p. 76). The writer cannot help but feel, however, that the general style of these specimens, the technique and the design, were probably influenced by contact from the mainland of South and Central America; that is, that the motive or motives which resulted in such a style was/were related to, or influenced by, the basic monochrome ceramic type of the mainland. Compare these figures of Rouse with Stone, 1941, Paya figures. Fewkes, 1907, Pls. LXXIV, LXXV, shows the ware from Santo Domingo and collections made by Dr. S. K. Lothrop in the region of Veraguas in Panama, now in Peabody Museum, Harvard University, are similar. In Paya specimens from Honduras (Stone, 1941) note the variety of shapes and decorations. See also Plates V, *a–d*, VI, *c* of this article.

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Cambridge, Mass.
December, 1941

AN ACCOUNT OF SOME RECENT EXCAVATIONS AT SEBA, BRITISH GUIANA[1]

J. E. L. CARTER

THIS paper concerns an excavation carried out by the author at a newly reported prehistoric site at Seba in British Guiana. The work done was very limited, being intended originally to be only exploratory, but by a fortunate chance an unusual and substantial cache of stone and pottery artifacts was found in one of the trial pits. This yielded a considerable amount of information about both the material and non-

FIG. 13.—Map of the area showing the relationships of Seba, Los Barrancos, Erin, and other sites in the immediate neighborhood.

material culture of the site, thus lending more interest and value to the work than normally expected from excavations of such small extent.

Seba lies about 100 miles up the Demarara River in British Guiana (Fig. 13), being about seventy-five miles from the coast as the crow flies

[1] I would like to acknowledge here my indebtedness to the United States and British Army authorities who made this work possible, to Mr. J. A. Bullbrook for much invaluable information about the archaeology and geology of British Guiana, to Mr. K. Barr for his geological opinion on the material, to Miss Dorothy Mathison for hours of patient work put into the reconstruction of the pottery vessels, and to Professors Cornelius Osgood and Irving Rouse for advice and help in connection with publication.

and fifteen miles below the Malali rapids, where the river first ceases to be navigable. The country downstream from Seba is, on the whole, flat and marshy and is covered with dense bush. At Seba itself an outcropping formation of diorite appears as a low bluff overlooking the water. Here begin also the first suspicions of the foothills of the Pakaraima plateau which rises by successive stepfaulting to 9000 feet above sea level about seventy miles farther inland.

It may be said in fact, that Seba's geographical setting is in the natural area where the people of the coast and lower rivers would have contact with the people of the hinterland. As such, it may well have had great importance as a trading centre and place of cultural exchange.

It is interesting to note that the distances by water to the other known prehistoric sites of importance in the neighborhood are 250 miles to the mouth of the Waini River,[2] thirty miles to Koriabo[3] which is seventy miles up the Barima, 400 miles to Los Barrancos[4] in Venezuela, and 400 miles from Erin[5] in Trinidad. These distances are small enough to bring Seba culturally within range of all these sites[6] and, as such, to make it of great potential interest in connection with research into the origins of West Indian culture.

The recent history of Seba is in keeping with its geographical setting. It was apparently occupied by the Dutch and held as an outpost on the river.[7] Many traditions of this occupation survive, especially in the form of stories of Dutch gold being buried at various places along the banks of the river. In fact, a tree not more than thirty yards from the site of the occupation was pointed out by a local inhabitant as marking one of these spots. A trial hole near this tree yielded nothing.

More recently, a quarry was opened up at Seba and material shipped down stream for the construction of Georgetown.

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[2] Excavations carried out by J. A. Bullbrook. The site proved to consist of a shell midden without any artifacts. Work described in Appendix of Bullbrook, ms.

[3] Excavations carried out by J. A. Bullbrook. The site yielded artifacts of pottery and a stone similar to the material from Los Barrancos and Erin.

[4] Excavations carried out in 1941 by the Department of Anthropology, Peabody Museum, Yale University (Osgood, 1942).

[5] Fewkes, 1914. Work also carried out on this site in 1941 by the Archaeological Section, Historical Society of Trinidad and Tobago.

[6] It is of interest to note that even within recent years parties of up to twelve Indians have been observed to make the 150 mile coastwise trip from Georgetown to the mouth of the Waini River in "purple heart" woodskin canoes. This represents half the coastwise journey from Georgetown to Erin. Until stopped by recent action on the part of the authorities, there has been constant intercommunication by native canoes between Erin Bay and Venezuela (verbal communication by J. A. Bullbrook).

[7] A six-inch cannon ball was found recently about a mile from the site.

The site is located on the right bank of the river about a mile below Seba Quarry, i.e., about a mile below the place where the bluff overlooks the water. The stream here is about 200 feet wide and six feet deep and on the date of the excavation, January 9, 1942, was slow-flowing and almost clear. During the two rainy seasons, however, which normally end in August and December, respectively, a considerably greater quantity of water is carried. The tidal movement at this point is about eight inches, although, of course, there is no actual reversal of flow or entry of brackish water. The low banks are thickly covered with vegetation (Pl. VII, upper). Fine white sand composes the subsoil and topsoil, the latter about three feet thick, but black with humus.

The site chosen for exploration was one on which a clay vessel containing several stone implements had been found (Fig. 14).[8] As I had

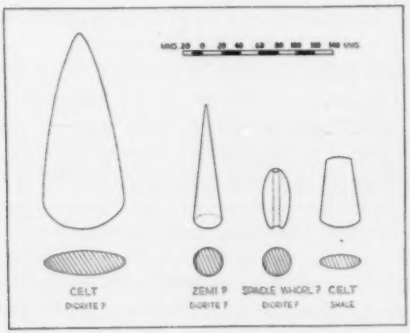


FIG. 14.—Sketches of the material found in the neighborhood during previous excavations carried out for engineering work.

only a very limited supply of labor and only a day and a half to spend on the site, I decided to content myself with making a few trial pits in the area. The first of these was about twenty feet upstream from the actual spot where the previous find had been made and about forty feet from the water's edge, the ground here being about four feet above water level. A second spot was selected about thirty feet away from the first and two laborers were set to work on each site digging pits three

[8] I was able to see some of the implements, which are sketched, but was informed that the pottery had been considered of little value and had been thrown away. From a general description supplied by one of the men who had been present when this find was made, it appears certain that it represented a cache very similar to the one described.

feet by two feet. Several other pits were also dug in this area, but as nothing of any consequence was found in any but the first one, I will confine myself to a description of it alone.

In the first two feet, nothing was found except a few fragments of pottery and unworked stone. At two feet six inches, however, a large potsherd was uncovered and, suspecting that this might be part of a major object, I completed the excavation myself with a trowel.

It was soon apparent that there was a considerable amount of material to be uncovered. The topsoil was carefully removed over a wider area than the original pit; gradually the rest of the soil was cleared away from a pile of pottery roughly oval in shape, about four feet by three feet in its principal diameters, and about nine inches deep (Pl. VII, lower), resting on the white sandy subsoil. The matrix covering and intermingled with it consisted of the black topsoil. In the course of this operation a small stone artifact (SS/3)[9] was found lying almost on the subsoil a few inches clear of the pile of pottery.

After the pile of pottery had been isolated, as much of it as possible was cleaned of the matrix with the trowel and a brush. It was then allowed to dry, photographed, and carefully removed piece by piece.

During the removal of the pottery, various stone artifacts were uncovered, the position of each being carefully noted (Fig. 15). Eventually the whole trench was cleared down to the undisturbed subsoil.

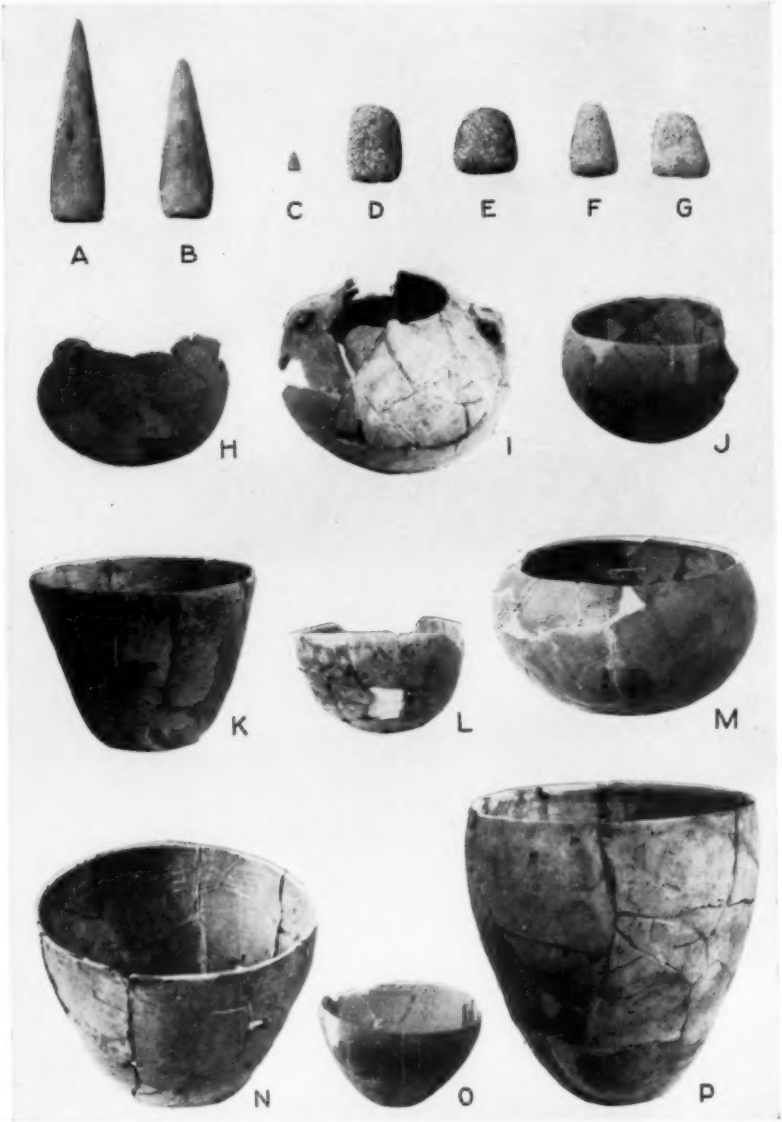
At all stages of the excavation, a careful search was made for traces of human burial, but none was found, and I am confident that there was no human burial immediately associated with the artifacts.

The two principal stone artifacts, SS/1 and SS/2, lay side by side resting against each other with their points in the same direction. They appeared to have been laid very carefully in position on the undisturbed subsoil. On top of them was the mass of pottery, which, on reconstruction, proved to consist of nine more or less complete vessels of various types. On the perimeter of the pile of pottery lay the four hammerstones, SS/4, SS/5, SS/6, and SS/7. As previously stated the small artifact, SS/3, was found a few inches away (Fig. 15).

The pottery vessels were badly broken although it was possible to recognize vaguely the shapes and sizes of several. It was noticed, in removing the material, that in many cases sherds of many different vessels were found in groups of three or four, with their curved surfaces

[9] This material is catalogued in two series SS/1, etc., and SP/1, etc., referring to Seba stone and Seba pottery. It is now stored in the field museum and workshop of the Archaeological Section of the Historical Society of Trinidad and Tobago at Erin, Trinidad, B.W.I. It is earmarked for the public collection in Port-of-Spain on the same island.

Upper, view of the site at Seba. *Lower*, view of the specimens in situ.



Artifacts from the Seba Site: A, SS/1; B, SS/2; C, SS/3; D, SS/4; E, SS/5; F, SS/6; G, SS/7; H, SP/9; I, SP/8; J, SP/6; K, SP/3; L, SP/7; M, SP/4; M, SP/2; O, SP/5; P, SP/1. (All approximately 1/7 except K, N, and P, which are 2/17.)

fitting into each other, while in other cases sherds of the same vessel were found with their curved surfaces opposed to each other. These facts combined with the general appearance of the material, indicate that some of the vessels were substantially intact when buried.

My general impression was that while the stone artifacts, except for SS/3, had been placed in position, and the pottery carefully piled on top, little care had been taken to avoid disturbing and damaging the pottery when filling up the hole.

The artifacts found consisted of seven of stone and nine of pottery. The stone artifacts were all complete and the pottery ones were either

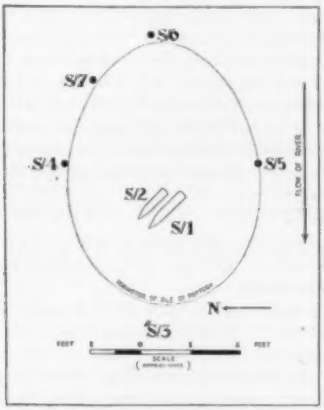


FIG. 15.—Sketch showing the relative positions of the stone artifacts and the mass of pottery.

complete or substantially complete. No chips of stone were found and no sherds which could not be allocated to one or other of the nine vessels.

Of the seven stone artifacts, four were roughly worked hammer-stones of local material and showed signs of use. The other three specimens were unusual in shape, were not made of local stone, and showed no signs of use as tools. Two were similar to each other, but the third, although similar in shape, was very much smaller. The following is a description of these three stones, which were apparently used ceremonially (Group A):

The polished and extremely well worked stone artifact of oval cross section with square-cut base and a sharp point shown in Plate VIII, A (SS/1) has an overall length of 295 mm., while the principal axes of the base are 55 mm. and 32 mm. The maximum

cross section is slightly larger than the base cross section and is 50 mm. from it. The material is a fine-grained andesite, foreign to the immediate locality and almost certainly foreign to British Guiana. The type appears to be completely new, in that I have been able to observe no similar specimens in the various collections I have examined in British Guiana, Trinidad, and the United States, including the South American, West Indian, and Central American specimens of the following institutions: the British Guiana Museum, the Historical Society of Trinidad and Tobago, the Royal Victoria Institute of Port-of-Spain, Trinidad, the Peabody Museum of Yale University, and the Heye Museum of the American Indian, Heye Foundation in New York.

The specimen shown in Plate VIII, B (SS/2) is very similar to the previous one but is rather shorter. Its overall length is 230 mm., while the principal axes of the base are 55 mm. and 34 mm. The pointed end is slightly squared. This specimen is extremely well made and is more highly polished than SS/1. The material is the same as SS/1. There are several small chips out of the basal edge and one out of the point but these do not appear to be marks indicating the use of this artifact as a tool. There are no bruises or scratches on the artifact and apart from the few minor chips the edges are undamaged.

The specimen shown in Plate VIII, C (SS/3) is very similar in shape and workmanship to the other two in the group but is much smaller and is of a slightly different material. Its overall length is 25 mm. while the principal axes of the base are 25 mm. and 15 mm. It is made of highly polished porphyritic augite andesite, quite possibly from the same locality as the material for the other two specimens in this group.

The following is a description of the four hammerstones (Group B):

In Plate VIII, D is shown a roughly worked, well-used, double-ended hammerstone (SS/4), 110 mm. long and 65 mm. ×55 mm. at its maximum cross section. The material is a diorite, probably found locally.

SS/5, which is rather better worked than SS/4, is made of the same material, with one flat and one rounded end (Pl. VIII, E). Its length is 75 mm., while the flattened end measures 75 mm. ×45 mm. The material is the same as that of SS/4.

The double-ended, well-worked hammerstone shown in Plate VIII, F (SS/6) is shaped like a truncated cone with an oval cross-section. It is 100 mm. long, 30×25 mm. at the top, and 60×45 mm. at the bottom. The material is the same as SS/4.

The specimen in Plate VIII, G (SS/7) is very similar to the last one in shape and style though its dimensions are rather different. It measures 85 mm. in length, 45×25 mm. across the upper face, and 70×30 mm. across the lower face. The material is the same as SS/4.

The nine pottery vessels all appear to have been locally made. They have the following characteristics in common: (1) made without a potter's wheel, (2) undecorated, (3) made of felspethic sandy clays which are easily obtainable locally, being derived from the local igneous rocks. The standard of workmanship varies considerably from good specimens, SP/1 and SP/4, to poor ones, SP/3 and SP/7.

The vessels fall into three general types: (1) conical vessels with their depth roughly equal to their diameter, the base being too pointed to allow the vessel to stand upright without support, (2) rounded bowls with slightly flattened bases enabling them to stand upright without

support, (3) rounded bowls with their rims drawn in to form a small mouth, on the opposite sides of which are two small loop handles.

Three specimens plus one doubtful are of the conical type:

1. A vessel (SP/1) 495 mm. deep, with rim diameter of 406 mm., mean thickness of walls, 8 mm. (Pl. VIII, P), was the largest found and the only one of which all the pieces were recovered. It is also one of the best made, the paste being astonishingly thin and uniform for a vessel of this size made without a wheel. This vessel is the only one with a thickened rim.

2. The depth of SP/2 (Pl. VIII, N) is 355 mm., while the diameter at the rim is 406 mm.; mean thickness of the walls is 8 mm. It is similar to SP/1 but is not so well made. The firing appears to have been imperfectly done as the inside surfaces of the sherds forming the bottom of the vessel, have disintegrated, leaving them all in a thin and extremely fragile condition.

3. The depth of the vessel shown in Plate VIII, K (SP/3) is 283 mm., while the diameter at the rim is 337 mm. and the mean thickness of the paste, 8 mm. Although similar to SP/1 and SP/2, it is very poorly made, the paste varying irregularly in thickness and being roughly finished, while the vessel itself is asymmetrically formed.

4. The small vessel shown in Plate VIII, O (SP/5) is only 133 mm. deep, while the diameter at the rim is 191 mm. and the mean thickness of the paste, 6 mm. It is fairly well made of a dark, brittle paste. Owing to its shape, it has been classed with SP/1, SP/2, and SP/3, but the difference in size indicates that it probably should not really be regarded as being of the same type.

Three specimens are of the rounded type, as follows:

5. Plate VIII, M (SP/4) is 165 mm. deep, while the diameter at the rim is 254 mm. and the mean thickness of the paste, 6 mm. It is very well made, the paste being uniformly thin and well polished on the outside, while the shape is very regular. A peculiar characteristic, which is also noticeable to a lesser extent in several of the other vessels, is that all the sherds have their edges very much worn, as though by water. The fact that the vessel is substantially complete, and that the pieces were found so close together, would seem to indicate that erosion took place in situ, possibly by water flowing through the sandy matrix in time of flood.[10]

6. The depth of SP/6 (Pl. VIII, J) is 133 mm., while the diameter at the rim is 228 mm. and the mean thickness of the walls, 5 mm. It is less well proportioned than SP/4, the paste is more sandy, and the surface is not polished.

7. The depth of the vessel shown in Plate VIII, L (SP/7) is 114 mm., while the diameter at the rim is 184 mm. and the mean thickness of the walls, 4 mm. It is crudely made, of a rough, reddish paste and is irregularly oval in shape.

Two specimens are of the handled type:

8. The larger of the two vessels, SP/8 (Pl. VIII, I), is 191 mm. deep, by 281 mm. maximum diameter. The diameter of the opening is 155 mm., the mean thickness of the walls, 6 mm. The paste is soft, many of the edges being worn, while the inner surface has

[10] Is is suggested that alkalinity in the ground water acting on the clays derived from the local igneous rocks might well have been the cause of the peculiar disintegration of the surface of this vessel (verbal communication by J. A. Bullbrook).

disintegrated, in parts, and flaked off. The outer surface is well polished and the shape is regular.

9. The depth of the vessel shown in Plate VIII, H (SP/9) is 203 mm., its maximum diameter, 203 mm., the diameter of the opening, 100 mm., and the mean thickness of the walls 6 mm. Only about 60 per cent of this bowl was found; only one very small fragment of the rim was recovered. The paste is soft and has disintegrated on the inner surface.

CONCLUSIONS

The conclusions which may tentatively be drawn from this very small excavation fall under two heads:

(1) the material and general aspects of the Seba culture with its surprising contrast to the group of so-called Arawak[11] cultures of the lower Orinoco and the west, as represented by material from Koriabo, Los Barrancos, Erin, and most of the Antillean islands as far as Haiti; (2) The non-material cultural questions raised by this peculiar form of artifact burial.

The most striking point as regards the material culture of Seba is the complete absence of any form of decoration in the pottery. Decoration—whether incised, affixed, or painted—is such a fundamental feature of the Arawak cultures that I consider even as the result of such limited work, that the Seba culture is not Arawak. This of course does not prove that there was no Arawak culture in the neighborhood but, in conjunction with Osgood's observations on prehistoric contact between South America and the West Indies[12] and Mr. J. A. Bullbrook's unpublished report on excavations at Arawak sites at Koriabo and the mouth of the Waini River,[13] it seems to indicate that the main Arawak culture coming down the Orinoco turned sharply north at its mouth and passed up northwards through Trinidad to the Caribbean Islands, the sites in northwest British Guiana representing a small southerly eddy in the culture. It appears surprising that a group of cultures which spread so remarkably through the Caribbean area should have apparently affected in no way the pottery of Seba. It is realized, of course, that a connection may well be found by further excavation at this site, but the prima facie evidence does seem to indicate that the southern boundary of the Arawak cultures may lie not very far south of the mouth of the Orinoco.

The questions on the non-material culture of Seba raised by the peculiarities of this cache of artifacts are even more interesting than the

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[11] It must be clearly understood that the word Arawak is used culturally and not linguistically, i.e. the practice followed is that of West Indian archaeology and not of South American.

[12] Osgood, 1942. [13] Bullbrook, N.D.

questions on the material culture raised by the distinctive types of the artifacts involved. It must be asked why this substantial collection of artifacts was buried in this manner and whether magic, ceremonial, ritualistic, or practical ends were to be served.

The salient facts may be summarized as follows:

Although there was no human burial on the site, a considerable number of artifacts were deliberately buried in a small area. The pottery artifacts, while substantially complete in all cases, in actual fact included only one absolutely complete specimen, SP/1. (I am satisfied that no important piece of pottery was left behind.) The stone artifacts appear to have been arranged in definite positions before the pottery was piled on top. Two of these artifacts (SS/1 and SS/2) which appeared to be of ceremonial rather than utilitarian design, were found under the center of the pile, while a third of a similar type, the small artifact SS/3, was found associated with, but outside, the pile. These three stone artifacts were made of material foreign to the area.

A rather similar artifact cache appears to have been found within 30 feet of this site, and it is also true that artifacts similar to those found in this cache are stated to have been found on the surface of the bluff at Seba proper.

There are four hypotheses which might explain these facts:

(1) the purely practical one of burying the stones to ensure safe keeping while the owner was away, (2) the burying of objects which had been rendered taboo by the death of their owner, (3) an attempt at homeopathic magic to produce, say fertility, in a certain family or community, (4) a ceremony relating to the seclusion of girls at puberty.

I consider that there are serious objections to the first of these hypotheses. It seems more probable that the stones would have been grouped together, and that particular care would have been taken to include with the main group, the small but highly worked artifact SS/3, than that these objects would have been placed as they were. There is also the curious fact that one substantial portion is missing from the majority of the pottery vessels. I am certain that I overlooked little when I removed the pottery from the excavation and feel sure therefore that the bowls were incomplete when buried. It is also noteworthy that no isolated sherds were found which did not belong to one of these vessels. If the vessels had been in use up to the time they were buried, surely all of them would have been complete. If, however, they had been collected from a rubbish heap to mark the spot where the stones were to be buried, they would have been less complete and odd sherds would also have been collected. This seems to indicate that the vessels were broken shortly before being buried, and that very probably some kind of ceremony was involved.

As for the second hypothesis, it is, of course, a generally accepted belief among primitive people that the personal effects of a dead man

are taboo and will bring death to anyone who may handle them without due ceremonial care. It is easy to imagine that the body was buried elsewhere, this site having been chosen for the disposal of the objects, the vessels ceremonially broken, a portion being thrown in the river, and the artifacts buried with the hammerstones acting as guardians of the pile. SS/3 may possibly have been thrown in for luck.

The third hypothesis is also well worth considering and is of peculiar interest in that it takes special cognizance of the apparently ceremonial nature of the principal stone artifacts, SS/1, SS/2, and SS/3, which are suggestively phallic in shape.[14] May it be submitted that the burial is an attempt at homeopathic magic, SS/1 representing a man, SS/2 his wife, and the whole being symbolical of their domestic estate. The small artifact, SS/3, which is so similar to SS/1 and SS/2 (and was lying outside the pile), would then represent the desired child. The only explanation to account for the breaking of the vessels is that such breaking is consistent with general ideas of primitive magic.

The last hypothesis suggested is that the cache of artifacts is the result of ceremonies similar to those carried out amongst the Macusis of British Guiana recorded by Frazer.[15] The essential characteristics of these are the seclusion of girls at puberty and the ceremonial breaking and burial of the vessels which they had used during the period of seclusion. That fertility rites might also be associated with such ceremonies appears to me to be very likely.

I consider that the evidence so far available is too slight to allow more than the most tentative conclusions to be drawn. Insofar however as the evidence goes I am of the opinion that the last of the four hypotheses represents the lines on which the explanation of this aspect of the non-material culture of Seba will be found.

It may be said in conclusion that this excavation has yielded a surprising amount of information about the material culture of Seba and at the same time opened up some very interesting ideas about certain aspects of the non-material culture. This site has been included in the Caribbean Anthropological Program of the Department of Anthropology of the Peabody Museum, Yale University, U.S.A. It is thought that much valuable information will be obtained by the examination of similar caches in the neighbourhood and by the location and examination of the settlement with which these caches must be related.

[14] Though it is only fair to state that few, if any, phallic objects have ever been reported from the Antilles or from British Guiana.

[15] Frazer, 1927, p. 601. I am much indebted to Miss D. I. Mathison for bringing this reference to my attention.

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UN COLLAR PRECOLOMBIANO DE SODALITA EN COLOMBIA

GREGORIO HERNANDEZ DE ALBA

A PRE-COLUMBIAN SODALITE NECKLACE FROM COLOMBIA

On his 1936 archaeological expedition in the region of Tierradentro, Cauca Department, Colombia, the author collected thirteen beads of a necklace from a pre-Columbian tomb. Two of these are circular, 7–9 mm. in diameter and 5 mm. thick. Eleven are cylindrical, from 7 to 12 mm. long. These cylindrical beads have double perforations, one from the top and one from the side, which meet in the center at right angles. Five of the beads are carved in the form of an anthropomorphic bust, with the head occupying at least half of the bead. The style of the carving suggests San Augustín cultural affiliations.

All of the beads are made of sodalite. This is the first time that sodalite artifacts have been reported in Colombia, although beads of other materials are common. Sodalite artifacts have been found, however, in Argentina, Bolivia, Peru and in North America. The only mine which is known to have been worked in pre-Spanish times is in Bolivia.

Sculptured beads are found in Peru but in general are rare in South America. They are common, however, in Oceania. Beads with similar double perforation are equally rare in South America, being found only in Brazil. The Marquesas Islands have double-perforated beads. The author feels that the use of sodalite probably had magical significance.

DURANTE la Misión arqueológica que en 1936 me fué confiada por el Ministerio de Educación Nacional, para hacer investigaciones sobre los recientes hallazgos de Tierradentro, hube de recoger en el Municipio de Inzá, Departamento del Cauca, trece cuentas de collar procedentes de una sepultura precolombina (Pl. IX, *a*). Desde la primera observación llamóme positivamente la atención el material de las cuentas que lo forman, una roca semi-transparente, de tonalidades violáceas y azulosas, poco consistente, de quebradura cristalina irregular y presentando filamentos alargados.

Antes de este hallazgo jamás habíamos hallado en Colombia tal material trabajado por los aborígenes y destinado a un uso semejante, habiendo sido hasta entonces y en cualquiera de las zonas arqueológicas del país, común el hallazgo de cuentas de collar de piedra común, andesita, cuarzo, jade, cornalina, pirita, tumbaga o aleación de cobre y oro, oro nativo con sus imperfecciones y mezclas de orígen,[1] cobre,

[1] G de Créqui-Montfort, P. Rivet et Arsandaux. "Contribution a l'étude de l'archéologie et de la métallurgie colombiennes." *Journal de la Société des Américanistes de Paris.* Nlle Serie T. XI. 1919, pp. 525–592.

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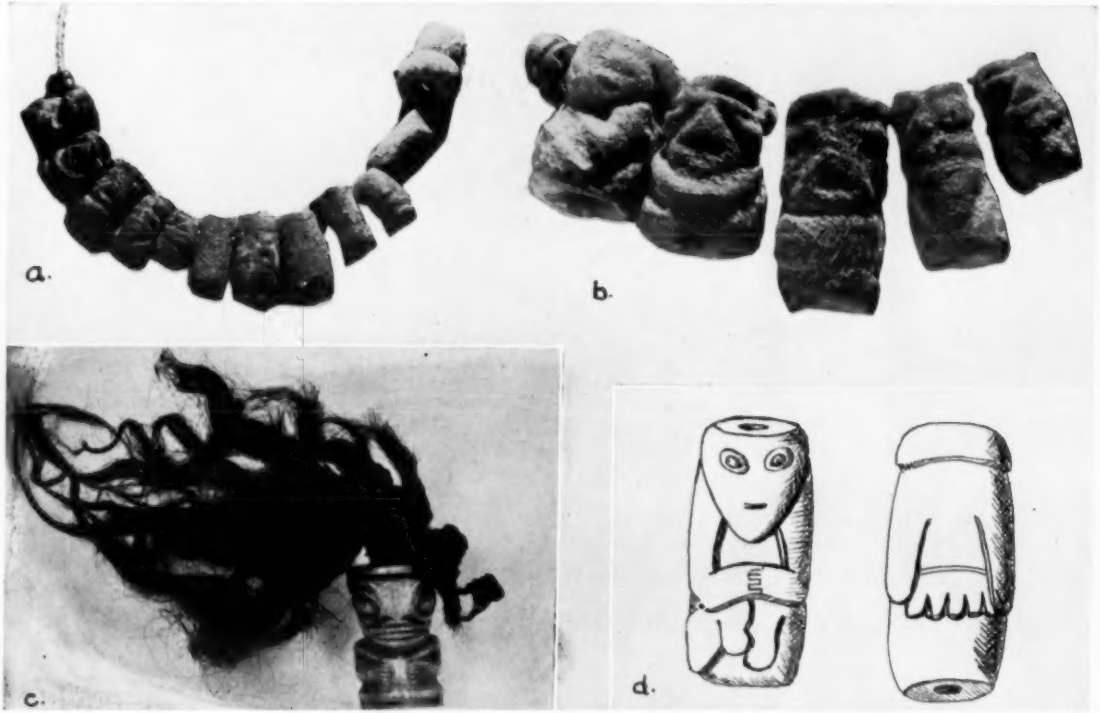

a, Cuentas de collar halladas en Tierradentro, Colombia; *b*, las cuentas antropomorfas; *c*, figurilla oceanica en hueso; *d*, pegueño idolo de Nazca, segun Ahlfeld y Wenger.

concha, hueso, semillas, madera, arcilla y resina;[2] siendo las cuentas de collar que muestran figuras antropomorfas y zoomorfas, muy especialmente de metal, pocas en piedra; y siendo además muy numerosas las de piedra, conchas y hueso que adoptan la forma de disco circular, disco poligonal, cilindro, pera o cono truncado.

La construcción de las cuentas de collar halladas en este caso de Tierradentro, es así: dos cuentas circulares de siete y nueve milímetros de diámetro por cinco de grueso, con los bordes redondeados, y once cuentas de forma general cilíndrica con dos perforaciones. Cada una de estas perforaciones se hizo así; una transversal hacia un extremo, el superior, y otra longitudinal siguiendo el eje. De la razón de ser de estas dos perforaciones, pude a primera vista deducir que aquella transversal estaba destinada a ensartar dichas cuentas o pendientes, sin poderme explicar por el momento el oficio que la segunda perforación hubiera podido desempeñar.

En cuanto a la decoración, cinco de las once cuentas cilíndricas presentaron en relieve una figurilla humana, que en las otras seis estaba enteramente borrada. Trátase de una representación antropomorfa—busto—cuya cabeza ocupa a lo menos la mitad del alto total que varía entre siete y doce milímetros, hallándose en el resto y en relieve los brazos que adoptan una forma de arco que rodea por abajo la cara. Ésta, que se inicia por un saliente que puede representar la frente, tiene ojos ovoidales con una raya central siendo el lado mas estrecho el interior; la naríz es muy ancha en su base—tipo negroide—y la boca está figurada por un saliente horizontal (Pl. IX, *b*).

Si bien esta decoración esculpida en bajo relieve, que las convierte en pequeñísimos bustos muy bien trabajados, con características que se hallan en las esculturas monumentales de San Agustín, tales como la forma del ojo, ausencia de cuello, la ancha naríz y la proporción entre la cabeza y el resto, sería suficiente motivo para hacer de estas cuentas de collar piezas importantes en la arqueología colombiana, hay dos detalles más: el material y la doble perforación, los cuales me parecieron objeto de un minucioso estudio, habiendo obtenido los resultados que se expresan a continuación.

Forma. Siendo en Colombia único a lo que parece hasta hoy el collar así formado por pequeñas cuentas cilíndricas esculpidas en piedra, debería buscarse la presencia de objetos semejantes en otros lugares de

[2] *Colombia Compendio Arqueológico.* Gregorio Hernández de Alba. Bogotá, 1938. Collares en resina llamada "barniz de Pasto" y provenientes de la Cruz, Nariño, Colombia, se hallan en la colección Moncayo del Museo Arqueológico de Bogotá; "Collares de resina y madera." Gregorio Hernandez de Alba. *Boletín del Museo Arqueológico.* Bogotá, Colombia, Año I, No. 1, 1943.

América, y esta consulta nos presentó únicamente varias cuentecillas de collar, pétreas u óseas con figura humana, en el Perú (Región de Cuzco), y en la zona Nazca, con la particularidad para este último ejemplo, de una figurilla ejecutada en el mismo material que las nuestras, aunque presenta en un mayor tamaño una mejor ejecución, pues ya tiene los brazos de manera que las manos, muy notorias, se juntan sobre el pecho, y las piernas muy bien representadas están en posición encogida.[3]

Si pocos son los ejemplos que de estos objetos de adorno nos presenta la Arqueología de Sur América, la Oceanía en cambio es generosa en las cantidades de figurillas esculpidas en cilíndros perforados. Von den Steinen en *Primitive Südseeornamentik*,[4] trae en sus láminas 140–177–180–181–182–183 y páginas beta K y beta L, varias estatuillas o bustos del tipo hallado en Tierradentro y perforadas longitudinalmente. El Doctor Louis Rollin[5] nos presenta a la vez en su interesante obra sobre las Islas Marquesas, un dibujo de tales figurillas, esta vez en hueso. Y el Museo del Hombre, de París, así como el Sr. C. Van den Broek d Obrenan, Jefe de su Departamento de Oceanía, guardan en sus colecciones varias de esas figurillas oceánicas en hueso, las que, por lo demás, no son extrañas a ningún museo que posea objetos de Oceanía (Pl. IX, *c*).

Perforaciones. Las cuentas cilíndricas, esculpidas, del Perú, se hallan todas perforadas transversalmente, ni mas ni menos que como pendientes de collar no siendo jamás esa perforación longitudinal. Las cuentas de hueso con decoración antropomorfa de las Islas Marquesas, tienen, por el contrario, una perforación longitudinal cuya presencia se explica por el uso a que se destinaban: entre los peinados de los marquesianos había uno especial llamado "Tope" el cual consistía en dejar un mechón largo y cayendo a un lado de la cabeza, el que significaba que su portador debía ejercer su venganza en algún su enemigo. El mechón debía pasar por un cilindro pequeño de hueso humano esculpido llamado *Ivi-Poo*, que son las figurillas mencionadas. Tambíen algunos *Ivi-Poo* se colocaban en la extremidad de las hondas, quizá con el mismo significado vengador o de amuleto favorecedor de las venganzas.[6]

Solamente en el Brasil pudimos hallar cuentas de collar o pendientes

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[3] Fr. Ahlfeld und R. N. Wegner. "Über die Herkunft der im Bereich altperuanischer Kulturen gefundenen Schmuckstücke aus Sodalith." *Zeitschrift für Ethnologie* LXIII. Berlin 1932, pp. 288–296. Fig. 7.

[4] Karl von den Steinen. "Die Marquesaner und Ihre Kunst." *Primitive Südseeornamentik*. Dietrich Reimer in Berlin. 1928 Band II. Plastik.

[5] Dr. Louis Rollin. *Les Iles Marquises*—Paris. Société d'éditions Géographiques, Maritimes et Coloniales. 1929. Fig. 16.

[6] *Id.*, page 203. Fig. 35.

con las mismas dos perforaciones que se presentan en Tierradentro. F. Barboza Rodríguez[7] en la estampa V fig. 1 presenta un "gran amuleto de cuarzo opaco, usado por los indios Tarianos. Estos amuletos son de varios tamaños y usados por todos los hombres de la tribu como distintivo de nobleza, pero no indican poderío ni senal de jefatura cuando se tienen por el hueco transversal. Usa el pueblo, además de los grandes también otros pequeños, en general de 2 a 3 centímetros de longitud, perforados longitudinalmente e iguales a los que se encuentran como sus congéneres de nefrita. Son, en general de cuarzo o nefrita en forma de tonel alargado con perforación longitudinal y otra transversal hacia un extremo." Idéntico caso al que nos ocupa, en cuanto a las dos perforaciones.

Material. Como ya lo anotamos, el material del collar de Tierradentro llamónos desde el principio la atención, y llevadas sus cuentas a París, las hicimos analizar en el Laboratorio de Mineralogía del Muséum d'Histoire Naturelle, resultando del análisis hecho por M. Doucet, que se trata de sodalita ($3Al_2Na_2(SiO_4)2+2NaCl$).[8] Quebradura cristalina, tonalidad azul violácea. Dureza 5 a 6. Densidad 2.294. Indice 1.4843. No fluorescente en ultravioleta.

Es esta la primera vez conocida en que se ha hallado la sodalita en Colombia, aunque de su presencia en América tenemos varios ejemplos: a E. Bamberger, y K. Feussler,[9] debemos la primera noticia de dicho mineral en América, por el analísis de cuentas de collar recogidas en Tiahuanacu por Stübel y en Ancón (Perú) por Reiss. Eric Boman[10] halló en la Argentina varias cuentas de collar del mismo mineral, así: cuatro en Queta, una de ellas blanca y el resto azules; una azul en Morohuasi; una azul con densidad de 2.26 en Sayate y dos azules en Pucará de Rinconada. Y agrega este mismo autor, que la sodalita trabajada por los indígenas en cuentas de collar, se halla además en Perú y Bolivia, existiendo por otra parte intrabajada en América del Norte, en Ontario, Groenlandia y Columbia Británica. Posteriormente Fr. Ahlfeld y R. N. Wegner[11] nos describen como "otro mineral qúe se encuentra en las antiguas civilizaciones, muy estimado por su bello color azul oscuro tirando a veces a violeta, es la sodalita. Y entre las

[7] F. Barboza Rodrigues. *O Muyrakyta e os Idolos Symbolicos*—Rio de Janeiro. Imprenta Nacional 1899.

[8] The formula for sodalite of unspecified origin given in the International Critical Tables, Vol. I, p. 153, Index 2870, is $3Na_2O{\cdot}3Al_2O_3{\cdot}6SiO_2{\cdot}2NaCl$; that given in Dana's Manual of Mineralogy, 15th Ed., for sodalite also of unspecified origin is $Na_4Al_3Si_3O_{12}Cl$. —[Ed.]

[9] E. Bamberger K. Feussler. "Sodalith von Tiahuanaco"—*Zeitschrift für Krystallographie und Mineralogie*, herausgeben. von P. Groth—Leipzig 1881. T. V, p. 580.

[10] Eric Boman—*Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama*. Paris 1908. T. II, p. 625 630.

[11] Ahlfeld und Wegner. *Op. cit.*

sodalitas conocidas, la de Bolivia posee el mas bello color azul. Se conocen sodalitas trabajadas provenientes de todos los sitios de civilizaciones pre-peruanas; se pueden citar por ejemplo: Pucará de la Puna Argentina, Tiahuanacu, Cuzco, Nazca, Pachacamac, Cajamarquilla, Ancón, Chanchan, Santo Domingo, Barranca de Mamoré en Beni, al Este de Bolivia." No se conocía el lugar exacto de extracción del mineral que nos ocupa, cuando en 1928 los mineros de oro Block y Ahlfeld pudieron estudiar unas minas de sodalita en Bolivia, localizadas en la Serranía de Palta, más exactamente en el cerro Sapo, minas que hallaron haber sido trabajadas por los antiguos indígenas *pre-incas*. Tal sodalita tuvo un peso específicio de 2.31 y 2.309.[12] Los mismos autores que tan intensivamente tratan el problema, agregan que la mayor parte de los objetos de adorno en sodalita hallados hasta entonces, son simples cuentas de collar en forma de discos de 2 a 3 milímetros de espesor y 6 a 7 de diámetro, siendo menos frecuentes las cuentas grandes que van hasta 3 a 4 centímetros de longitud. Sinembargo presentan un pequeño ídolo de Nazca perforado longitudinalmente (Pl. IX, *d*), otro de Piquillacta cerca al Cuzco y un como gran huevo de pelícano.[13]

El Padre Franz Müller[14] por último, y bajo el número 68–38 del Museo Pontificio Misional y Etnológico del Vaticano, nos presenta entre diversos adornos de cuello provenientes de tumbas de Queta (Argentina), una cuenta azul de sodalita. A. Posnansky, según este autor, aseguró que la sodalita no existe en la América del Sur, debiendo ser importada; pero ya vimos como no solamente la cantidad de objetos hallados en Argentina, Bolivia y Perú y ahora en Colombia, sino el descubrimiento en Bolivia de las mismas minas trabajadas por indígenas, aseguran otra cosa.

Conclusion.—El mineral sodalita, se halla, pues, en estado nativo en la América del Norte, y en la del Sur una importante mina trabajada por los indígenas se ha hallado en Bolivia, la cual hasta ahora parece haber proporcionado el material para las cuentas de collar y pendientes usados por pueblos preincásicos, en Argentina, Bolivia, Perú y Colombia (Territorio de Tierradentro). Y como quiera que la mayoría de los ejemplos conocidos pertenecen a civilizaciones claramente preincásicas, fué en la lejana época de la extensión, principalmente por los valles andinos y sus vertientes, del substrato cultural andino, cuando

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[12] *Ibid.* p. 291–295, fig. 2–3. [13] *Ibid.* p. 295, fig. 7.

[14] P. Franz Müller—"Kommentar zur Sammlung einiger Archäologischer Gegenstände aus Nor-west Argentinien im Lateranmuseum." *Anali Lateranensi*—Cittá del Vaticano. 1938.

Véase además: Wolfgang Brendler—"Sodalite from Bolivia"—*The American Mineralogist*. Menasha. T. XIX, 1934, pp. 28–31.

el comercio de la roca debió efectuarse. Ahora bién, por la forma especial de las figurillas esculpidas en el collar de Tierradentro: naríz muy ancha en su base, ojo almendrado, gran proporción de la cabeza con relación al resto, parece que tal collar hubiera sido esculpido por artífices pertenecientes al mismo pueblo arcaico que dejó estatuas monumentales en San Agustín y luego en Tierradentro.

No por simple gusto o preferencia artística debió de emplearse en cuentas de collar la sodalita, pues, como bien lo anotan Ahlfeld y Wegner en la obra citada, el verde y el azul poseían un valor particular, por ejemplo, en el antiguo Perú, y debemos dar un interés especial a la sodalita, bello mineral azul , en su calidad de adorno preferido al cual atribuían fuerzas mágicas. El sentido mágico, en efecto, nos aparece como guardándose detrás de muchos fenómenos técnicos, estéticos, etc., de los pueblos primitivos.

De los *Ivi-Poo* oceánicos, por su forma general y su perforación longitudinal, nos presenta resemblanzas este collar, sin que debamos olvidar tampoco el carácter mágico de aquellos Y con los amuletos Tarianos del Brasil hay identidad en cuanto a la doble perforación para distintas colocaciones, que en el Brasil eran un símbolo de categoría, pues según el orificio por donde pasara el hilo mostraba el poseedor del amuleto ser Jefe o simple miembro de la tribu. Material posiblemente venido por un comercio antiguo con Bolivia, obra del arte de un antiguo pueblo del territorio colombiano con significación mágica unida a la rareza del material y su coloración y al mismo tiempo con el carácter mágico religioso de un amuleto que, según su colocación se convierte en símbolo social, tal puede presentársenos según las consideraciones que anteceden, el collar de sodalita de Tierradentro.

Museo Nacional de Arqueología.
Ministerio de Educación
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A TRIAL SURVEY OF THE SOUTHERN MAYA AREA

J. Eric S. Thompson

A FRAMEWORK OF MAYA HISTORY

MAYA history can be divided into four great periods; the formative, the initial series, the Mexican, and the Mexican absorption. The formative period (prior to A.D. 300) comprises the Mamom and Chicanel phases at Uaxactún and coeval phases found elsewhere in the central area (Petén, British Honduras, Chiapas, Tabasco, lower Motagua, drainage), the northern area (Yucatan, northern Campeche, Quintana Roo) and, as we shall see, the southern area. This last comprises the highlands and Pacific slope of Guatemala and adjacent parts of western El Salvador. The initial series period spans the six centuries (A.D. 325–900) during which the Maya, particularly in the central area, were erecting stelae with initial series inscriptions or related forms of dating. It is the classical age of Maya history, to which belong the great architectural developments of the central area and the pre-Mexican buildings of Yucatan, and which is marked by the peak in sculpture and ceramics. It comprises the basal-flanged bowl (or Tzakol) phase and the Tepeú phase, remarkable for the wonderful development of figure painting on pottery. Between the close of the stela cult and the historical date rather arbitrarily chosen as the start of the Mexican period there intervenes rather less than a century, a stage probably marking the first impact of Mexican influences connected with Tula.[1]

The Mexican period (A.D. 987–1204) is poorly developed in the central area, but is represented to a certain extent in British Honduras. The dates are those of the Katun (20-year period), in which, according to the chronicles, the Mexicanized Itza settled at Chichen Itza, and of the Katun in which they were overthrown and expelled from that city. This is the period of Mexican architecture at Chichen Itza (Temples of Chac Mool, Warriors, Castillo, High Priest's Grave, etc.). It witnessed the first introduction of metal and plumbate effigy pottery, but polychrome pottery is poorly developed. Most important, it marks a profound change from a theocracy to an aggressive militarism. Religion, although continuing to be the prime factor in the lives of the common people, lost ground to political and militaristic institutions

[1] Citations are far from exhaustive. For discussions of ceramic phases, as to content or chronological positions, see Merwin and Vaillant, 1932; Vaillant, 1935; Thompson, 1939 and 1941*a*; Smith, 1940; and Caso, 1941. Dates are according to the Goodman-Thompson correlation. Period and area names are of my own coinage. In view of Boggs' unpublished work, western El Salvador is omitted from the survey.

among the new rulers. Warfare, once a means to the end—that of obtaining sacrificial victims—became more important than the end. The pattern of culture changed from one of moderation in all things to one in which excess was the standard (although never accepted by the old Maya stock).

The Mexican absorption period (A.D. 1204–1540) is one in which Mexican influences gradually became attenuated. Maya attitudes reasserted themselves, and the ruling families in Yucatan and Guatemala became Maya in speech and outlook, so that by the time of the Conquest there remains little Mexican but a tradition of Toltec descent. For example, such a profoundly important social and religious innovation as the Mexican military orders of Jaguars and Eagles has left scarcely a memory in Yucatan, although its symbols cover buildings of the Itza at Chichen Itza. Similarly the Quetzalcoatl cult lost so much ground that the present-day Maya knows nothing of a feathered serpent deity. In the southern area the nationalization of alien Mexican ideas perhaps proceeded more slowly (the orders of Jaguars and Eagles persisted to the end), but this may have been due to the presence of Mexican groups (the Pipil) scattered along the Pacific slope of southeastern Guatemala and adjacent El Salvador and along the Motagua Valley in northeastern Guatemala.

In Yucatan, this period is marked first by the domination of Mayapan, and, in the last sixty years, by dissolution into petty chiefdoms, constantly at war with one another. It is a time of architectural and ceramic decadence. Concerning this period in the central area we have little information, except that petty chiefdoms existed at the time of the Conquest. In the southern area, as will be shown, developments closely paralleled those of Yucatan.

THE FORMATIVE PERIOD

Cartographers of an earlier age filled unknown regions with dolphins, sea-monsters and other fanciful denizens of the deep or of the land. Tastes have changed. The modern demand is for clear-cut facts (if such unattainables do, indeed, exist). Nevertheless, terrae incognitae, reported to harbor fierce Amazons or queer people with ears so long that they served as bedding, had a charm, the last lingering drops of which have now been shattered by a surfeit of morning and evening broadcasts from Chunking, Cairo and the Torres Straits, surprisingly enough, delivered in strangely uniform accents of the Middle West.

The archaeological map of the southern area has far more blank spaces than ever enticed the pens of those map-makers of a passed age. Guesses can partially fill some of these, but how dull are a succession of

possibles, conceivables or even probables in comparison with those romantic pictures of Cyclops, dragons, and unicorns ravishing maidens. Perhaps that is why books on Atlantis or the lost continent of Mu are often best sellers. Extremely little archaeological work has been done in the southern area, and the marked diversification of culture makes it dangerous to generalize, even did mid-twentieth century canons permit the exercise of that now much derided pastime of the mid-nineteenth century.

Thorough excavation has been undertaken so far only at Kaminaljuyú, a large and rambling site on the outskirts of modern Guatemala City. The name is of recent coinage, for different parts of what now forms Kaminaljuyú had been previously known by the names of the various farms (notably Finca Arevalo and Finca Miraflores) on which they occurred. A number of years ago large quantities of potsherds and pottery figurines were found there, the appearance of which strongly indicated an early occupation. Recent work of the Carnegie Institution of Washington, under Dr. A. V. Kidder, has confirmed this impression, producing evidence of four successive phases, christened Miraflores, Esperanza, Amatle and Pamplona.[2]

Miraflores, the earliest horizon, clearly falls in the formative period. Most characteristic are solid, hand-made figurines of pottery which resemble rather closely those of the Mamom phase at Uaxactún and certain early types from central Mexico. Many are covered with a creamy-white wash, and not a few have a decidedly oriental cast to their features. A few of the vessel forms found with them resemble some of the Chicanel phase at Uaxactún, which follows the Mamom. This is particularly marked in the case of certain dishes with everted rims, which are scalloped and slightly decorated so that they resemble birds or fish. Slipped pottery of the Miraflores phase has an excellent, highly polished finish, which in that respect far surpasses anything else manufactured in the southern area at any time. Colors are black and a brownish red. The former is often incised with simple but very delicately worked designs. With these are found sherds of Usulután, a peculiar ware with a yellowish background for hastily applied patterns of criss-cross or parallel wavy lines in black (often bleached or faded). The ware takes its name from Usulután, in eastern El Salvador, outside Maya territory, where it occurs in large quantities. It is of considerable chronological value, but less so than plumbate because it appears to have been manufactured in more than one region, and therefore may have persisted in some areas longer than in others. Although quite

[2] For all aspects of Kaminaljuyu see Lothrop, 1926; Gamio, 1926–27; Kidder, 1936 and 1940; Kidder in Carnegie Institution of Washington, all years 1936–43.

widely distributed in the southern area, this type has not been reported from the central or northern areas, except at Copán, although a vessel from a burial of the basal-flanged-bowl phase at Mountain Cow, British Honduras, has been mistakenly identified as of this type. The examples at Copán come from the local phase of the formative period, but there is a kind of imitation on a much later horizon there.

Except for Usulután and a rather attractive ivory ware with simple patterns in an unusual plum color, pottery of the Miraflores phase is almost entirely monochrome. Indeed, throughout the southern area, except for the northern strip bordering on, and closely related culturally to, the central area, polychrome pottery was always rare.

Horizons which are probably coeval with that of Miraflores are found at Chukumuk, a site close to Lake Atitlán,[3] at Salcaja, near Quezaltenango, and at Champerico, Retalhuleu.[4] At El Baúl, on the Pacific slope, a few sherds have been found which are closely related to those of Miraflores, and figurines which are in the general style of the formative period are widespread in El Salvador. As yet no architecture can be attributed to this period other than simple mounds (one of considerable size), but stone metates show that maize was an important crop. Stone tools, as throughout the history of the southern area, were of poor workmanship. Obsidian blades, struck off cores, but generally not retouched, are common.

The resemblances in the figurines and the pottery and the fact that this phase underlies one that is closely related to the basal-flanged-bowl phase of the Petén leave no doubt that the formative period in the southern area was coeval with that of the Petén. Further exploration will almost certainly reveal a wide distribution of its products throughout the Guatemalan highlands, and should amplify the definitely imperfect picture we now possess.

THE INITIAL SERIES PERIOD

The custom of erecting dated stelae did not extend to the southern area, and no regular initial series have ever been found there, although there are some non-Maya hieroglyphic inscriptions at sites on the Pacific slope. Nevertheless, pottery ties with the initial series period in the Petén indicate an intensive occupation of the southern area during that protracted period.

The best documented material of the initial series period, as of the formative period, comes from Kaminaljuyú, where the local manifestation of the basal-flanged-bowl phase is called Esperanza. It is

[3] Lothrop, 1933.

[4] Gamio, 1926–27; Kidder, 1940*a*.

represented by large quantities of sherds and the contents of not a few spectacular tombs. That we are dealing with a phase that falls within the first part of the initial series period is demonstrated by the occurrence in Esperanza tombs and sherd deposits of vessels and fragments of basal-flanged bowls with ring supports closely resembling those of the Petén. Furthermore, as in the Petén, these vessels are found with vases of Teotihuacán forms (cylindrical with three slab feet and scutate covers). The resemblances and associations are much too definite to be fortuitous. The Teotihuacán influences at Kaminaljuyú are, however, considerably stronger than in the central area. A number of the tripod vases carry designs which are much closer to those of Teotihuacán than are those of the Petén, and, in addition, there are vessels in Esperanza tombs which are not found in the Petén, but have their counterparts at Teotihuacán, and in a coeval horizon at the great Zapotec center of Monte Albán. These include vessels with images of the Mexican rain god Tlaloc on their fronts, and others of a thin orange ware, often covered with painted stucco. Some of these are jars with flat bases, a form also found at Teotihuacán, but quite rare elsewhere, since almost throughout Middle America jars have rounded, or, more rarely, pointed bases. At present one can not say whether these are direct importations from Teotihuacán, or whether, as is a shade more probable, both centers drew from a third, and as yet unlocated zone. At any rate Miss Shepard has established, through the temper, that they derive from one source. Thus this phase links the first half of the initial series period of the whole Maya area with known horizons in central and southern Mexico.

All the tombs opened at Kaminaljuyú belong to this Esperanza phase. They are large pits, as much as twelve feet deep and twelve feet square. In most cases, the chief was placed in a seated or squatting position, and around him were set his possessions, and, sometimes, the bodies of retainers. Furniture includes many pottery vessels, points and knives of obsidian, mirrors of iron pyrites, set mosaic fashion on a slate backing, earplugs, beads and amulets of jade, and ornaments of shell. In one tomb, a human jawbone had been placed on each of three sides of the personage; the skull of a jaguar on the fourth.

In another tomb, at the feet of a middle-aged man, lay a young woman, pottery vessels, and (as in all tombs) a small metate. Presumably the girl had been slain so that she could serve her master in the next world. In a corner of the tomb were the bones of a small dog. In some parts of Mexico it was customary to slay a dog and place it with the body or cremated remains of its master, for it was believed that the dog went straight to the underworld to await him. The master took a

long time getting there, and having surmounted various obstacles, eventually reached the banks of a wide river, barring entrance to the underworld. His dog, which was on the far bank, swam back and helped his master across. Presumably, this or a related concept existed among the Maya, for, aside from the evidence of this tomb, the modern Lacandons still retain the custom of placing a little dog made of palm leaves at each corner of the mound of earth above a grave. These toy dogs are supposed to act as guardians of the soul, and accompany it on its final journey.

An extremely interesting discovery made by Dr. Kidder in one tomb at Kaminaljuyú was that of a skull, unfortunately badly smashed, the surface of which had been intricately carved. This is the only carved skull ever found in the Maya area. However, the most important single find in these tombs was a mirror back carved with an elaborate design in indubitable Totonac style. The involved design, the rounded angles, the double outline and the human figures are typical of that striking art style of eastern Mexico.

The position of Totonac art in the framework of Middle American history has been a matter of some controversy. Many of the motifs recall those of the Mexican period at Chichen Itza, but Totonac designs also occur on pottery from central Mexico coeval with that of the basal-flanged-bowl phase. This find at Kaminaljuyú shows that the latter were not the forerunners of a Totonac style that only matured in the tenth to twelfth centuries, but that this style was thoroughly developed by the end of the seventh century, and it can now be proved to have flourished at the same time as classical Teotihuacán, the contemporaneous period at Monte Albán, and the early part of the initial series period.[5]

The pottery in these tombs was extremely diversified. In addition to the types already discussed, there were large pottery incense burners with removable lids shaped as seated deities and provided with holes arranged so that the smoke of the copal incense poured through eyes, mouth and nostrils. Other vessels are shaped as grotesque persons, notably the Punch-like individual shown in Plate XII, *c*. This was evidently a period when the ceramicist was rather mistakenly given a free rein. The grotesque is fleetingly attractive, but proves a shade wearisome when it dominates a period. Furthermore this superficial elegance was at the expense of quality, for the surface finish of these vessels is far inferior to that of the pottery of the formative period. There is a certain shallowness about these products which is also pretty evident,

[5] Thompson (1941) wrongly places the great florescence of Totonac art in the twelfth century while grudgingly conceding an earlier development.

at least to us conservatives, in the isms which in recent years have mushroomed so peculiarly in arty circles. D. H. Lawrence tried to understand modern Mexican Indians, but only ended in being frighteningly bewildered by them. He might have fraternized more successfully in a spiritual sense with these Indians of the Esperanza phase.

These burial pits were roofed with logs and lined with mats. Pyramids were erected over some of the most important tombs, and sometimes three or four were placed in a line, the latest in front of the stairway, the earliest beneath the center of the pyramid. They can sometimes be detected by the slump which occurred after the roofs collapsed. Part of the soil of the pyramid poured into the pit, so that a vertical face cut in the pyramid shows deeply sagging floors and varicolored strata. In some cases these collapses definitely took place when the pyramid was still in use, and new floors were laid to eliminate the sags.

These pyramids are not particularly imposing now because of the materials of which they are made. As many as eight structures have been found encased one within the other and there are grounds for supposing that the covering of one pyramid with a new one sometimes was connected with the making of one of these tombs, just as important burials at Uaxactún were accompanied by far-reaching structural alterations to the buildings that housed them. These nested structures show considerable variation in shape and construction. The two earliest were rectangular platforms with vertical walls, the first of masonry; the second of adobe. The remaining six were pyramids with sloping sides and flat summits; the first four, of adobe, the last two, of volcanic pumice laid in adobe. On the smoothed adobe surfaces Dr. Kidder detected traces of a black film which he believes may be some sort of varnish. Otherwise, it is difficult to see how unprotected adobe surfaces could have withstood the downpour of a single rainy season. The later pyramids at Kaminaljuyu are faced with pumice set in mud mortar, over which was laid a coat of plaster, apparently made of lime. This may be very hard and thick or it may be little more than a thin layer covering a kind of soft concrete made of fine gravel. The pyramids usually have one to three tiers with sloping sides and flat terrace tops. Stairways are rather narrow and are supplied with ponderous but unornamented balustrades. Temples once stood on their flat summits, but the current temple was erased at each enlargement. Low walls of small ungainly shrines or altar rooms can still be traced in some cases.

In addition to the pyramids and mounds, none of great height, at least one ball court at Kaminaljuyú belongs to the Esperanza phase. Parrot heads sculptured in stone were once tenoned into its walls, and

in this respect it resembles the ball court at Copán. There are, in fact, considerable numbers of carved stones scattered through the ruins. These vary widely in style and finish from very crude to a shade better than mediocre. Some belong to the Esperanza phase, but not enough is yet known about the subject to place most of them in an archaeological sequence.

The basal-flanged-bowl phase is also represented in the Alta Verapaz and adjacent parts of northern El Quiché, a region which borders the southern edge of the central area (Pl. XI, *b*). As one would expect from its geographical position, this region produces evidence of a culture more closely related to that of the central area. Whereas the southern area, like Yucatan, is in general a region of monochrome or, at the best dichrome pottery, in which vessels decorated in three or more colors are always rare and perhaps often importations (Pl. XII, *a*), the Alta Verapaz and adjacent zone to the west had a long tradition of polychrome pottery, and produced at a later date some of the finest figure painting in the Maya area. Actually, much of this region is low-lying with valley bottoms less than a thousand feet above sea level, and were it not for the absence of a stela cult and of strong traditions of architecture and sculpture in stone, it might fit nicely in the central area.

Burials of the basal-flanged-bowl phase have been found at Chamá, in a fertile valley northwest of Cobán. With the bodies, which are in the extended position, are carved pendants and beads of jade, mirrors of iron pyrites arranged mosaic fashion on a backing of sandstone, and knives struck off obsidian cores. The pottery includes basal-flanged bowls with simple geometric designs in polychrome, the shapes being precisely like those of the Petén. All the other shapes are monochrome, principally black or smoked, rather rarely with a red slip. They include black bowls standing on four feet of rather early shapes, bowls of black or smoked ware with simple incised patterns and cylindrical vases on three slab feet reminiscent of the Teotihuacán type of this phase.[6]

From Chukumuk, on the shores of Lake Atitlán, come vessels of local forms, but perhaps of this same phase They are extremely dull monochrome affairs without any particular grace or interest except the conditions under which they were found. They were in a burial apparently made by piling huge quantities of rocks and boulders on top of a pit which contained the decapitated bodies of an aged man,

[6] Butler, 1940, for all phases of the Alta Verapaz and adjacent areas. Supplemental material in Termer, 1931; Seler, 1902–1923, Vol. 3, pp. 670–687; and 1904; Dieseldorff, 1926–33; Burkitt, 1930 (architecture); and various uncited short papers by Dieseldorff, Sapper, and Schellhas mainly in *Zeitschrift für Ethnologie* around 1900.

an aged woman, two grown men and two grown women, one young woman and an adolescent of unknown sex. The heads had been piled up like a stack of cannon balls in one corner of the pit.

Scattered finds indicate that an occupation contemporaneous with the basal-flanged-bowl phase must have been widespread throughout the southern area, but such finds are largely the work of pot hunters, and with pitifully few exceptions all information is lost.

Phases coeval with the figure-painting horizon of the Petén have been uncovered at El Baúl, in the Alta Verapaz and adjacent northern El Quiché, and around San Agustín Acasaguastlán, in the dry middle reaches of the Motagua Valley. Kidder's work at Kaminaljuyú has not produced anything equivalent to early Tepeú, and there is some evidence for a hiatus after the Esperanza phase in the group excavated. However, material in private hands said to have come from elsewhere in this rambling site, points to an occupation of some sections on the early Tepeú horizon. Probably corresponding to very late Tepeú and the transition is the Amatle-Pamplona period. No stratification has yet been found, but Kidder believes that Amatle precedes Pamplona. Both phases seem somewhat colorless. Polychrome pottery is extremely rare, and there may well have been a retrocession of activity from the Esperanza peak. The phases are of unknown length, but as effigy plumbate and other indications of the Mexican period are absent, presumably neither was of long duration. It must, however, be noted that material is from refuse heaps. The discovery of some tombs of this period might show these phases to be less depressing.

In the Alta Verapaz and adjacent northern El Quiché, figure painting is highly developed in the phase coeval with Tepeú. The finest vessels, usually cylindrical vases or globular vessels with high straight necks, carry really magnificent designs painted against a rich orange or, more rarely, dull ivory background. Not infrequently the scene is bordered by a band of white chevrons on black which circles the top and often the bottom of the vessel.

Scenes of conferences between richly garbed chiefs, portraits of gods, and frequent representations of a bat god, a deity of the underworld, are delineated on these superb examples of Maya painting (Pl. XII, *e*). Most of the vessels also carry beautifully drawn glyphs. In a number of cases, these are clearly decorative, since they include sequences of day signs, but in some of the life scenes there are glyphs which may be those of the individuals involved or may refer to the event portrayed. There is evidence that the actual scenes of events are somewhat earlier than the static portraits of gods.

Despite the great beauty of these vessels, they were not widely exported, and there is no definite proof that any has been found outside this rather small district in northern El Quiché and the Alta Verapaz. One or two now in private collections are said to have been unearthed in central El Quiché, but one can't put much reliance on these proveniences, as many pieces which are for sale are given fictitious pedigrees. Yet with trade as brisk as we know it to have been at that time it is a mystery why these superb vases were not more sought.

Typical too of this phase in the Alta Verapaz-northern El Quiché district are exceedingly light-weight dishes with designs in the negative painting technique of white dots zigzags, etc., against black (Pl. XII, *b*) Another and extremely beautiful ware was being manufactured somewhere in the northern highlands at the same time, perhaps toward the close of the initial series period. This has a plain creamy clay surface, sometimes covered with a thin white slip in which the figures of deities were incised with great beauty of line.

This phase also witnessed, probably toward its close, a strong development of carving of vessels or the molds in which they were made, but instead of the complex scenes not infrequent on carved vessels of the central area, the designs are usually restricted to a single deity or personage within each panel. Glyphs, which usually form a decorative band at the top of the vessel, are more naturalistic than those on the comparable pottery of the central area. The workmanship is excellent. Details are reproduced with great care, and the balance is good. There is a close resemblance in style between the figures on these carved vessels and the portraits of gods in polychrome from this same region. Even the same vessel shapes are the vehicles for both techniques, and sometimes the same vessel combines both. This is the peak of Maya ceramic skill.

A rare combination of two of these techniques (carving and negative painting) occurs on the magnificent vase of Guastatoya, near San Agustín Acasaguastlán, which is now in the National Museum of Guatemala (Pl. XI, *c*).[7] This serves to link this phase with the late horizon at El Baúl, in which negative painting and carving occur together, and with nearby San Andrés Osuna. However, negative painting itself occurs in an earlier period, and can only be used as a chronological indicator by utilizing design and shape. The most renowned carved vase from Central America, that said to be from San Agustín Acasaguastlán, and now in the Museum of the American Indian, Heye

[7] Villacorta, 1941.

Foundation, appears to be a clever fraud. If genuine it was the work of an artist ignorant of Maya ritualistic attributes.[8]

This same phase of the Alta Verapaz produced some extremely beautiful figurines cast in molds, elaborate incense burners with features of deities carefully reproduced in appliqué on their fronts, and pottery plaques with charming portraits of deities in low relief. All these branches of the ceramic industry are strongly influenced by the art of the central area, yet there is a strange absence of good sculpture in stone. At the present time, this region is occupied by Kekchi and Ixil, both highland Maya groups, but there is evidence of a northward expansion of both peoples in colonial and modern times. Accordingly, it is not improbable that the makers of this beautiful pottery were lowlanders, and presumably Chol Maya, who are known to have occupied part of this country as late as the seventeenth century.

During the figure painting phase (here called Alta Verapaz II) the dead in this district were disposed of in several ways. In many instances they were placed in huge, lidded, pottery urns, as much as three feet high, decorated with realistic heads of jaguars in full relief or with conventionalized faces made by attaching thin strips of clay, usually in straight lines, to the body of the urn. These faces are supplied with huge eyebrows, prominent noses and straggly beards. This is particularly the case at Nebáj, but at Chamá, bodies were laid on their backs in stone vaulted chambers, and a jade bead was placed in the mouth. At various other sites the dead were seated in a round or oblong chamber, lined with stone and provided with a side door. Some of these chambers are roofed in a manner which actually involves, in a crude way, the principle of the true arch, but the significance of this appears to have escaped the notice of the Maya.

Furniture with these burials includes jade pendants, finely carved in low relief to represent human figures, or in the round as heads of persons or animals, chipped points of flint, knives of obsidian, mirrors with mosaic surfaces of iron pyrites, large flakes of mica, stone bark-beaters and bone tubes with carved ends. The presence of skeletal re-

[8] Saville, 1919. Of the many errors in the carving I will cite solely the most obvious, associated only with the two largest serpent heads: Curl from corner of mouth of left snake ends impossibly in bird; that of right snake in vegetal motif. Both have nonsensical spirals replacing eyes and impossible supraorbital ridges. Left serpent has second fang curling forward. Right snake's upper jaw terminates in another head. Both snakes have un-Maya trefoil ornamentation with glyphs in countersunk circles, and both heads are artificially attached to bodies which are much too small and have unusual diamond markings. The sun god in the left head has a "kin" sign under the eye and three spots on cheeks, neither ever seen in the hundreds of portraits of that god. I understand that Spinden has questioned the authenticity of the piece.

mains as dedicatory offerings beneath pyramids points to the practice of human sacrifice. Mounds were faced with stone and provided with stairways, but so far no temples have been associated with this horizon. Several of these northern sites also contain ball courts, but again there is no evidence at present as to when they were built.

At San Agustín Acasaguastlán a number of tombs have been discovered. They are roofed with the Maya corbeled arch, and in many other respects the site appears to belong to the central area rather than to the southern.[9] These tombs are inside mounds which appear to have been conical and are composed largely of rock. Access to the tombs was by narrow stone-lined passages with ceilings of rock slabs. From the ends of these passages there is generally a step down to the floor of the tomb, which is usually eight to twelve feet long and from four and a half to five and a half feet wide. Unfortunately, these tombs appear to have been used more than once, and it is, therefore, impossible to say when they were built. Some of the pottery belongs to the basal-flanged-bowl phase, although most of it is much later, corresponding to a late development of figure painting. Some plumbate vessels, to be discussed shortly, have also been found in these tombs, and one plumbate vessel shared a tomb with quantities of paper-thin flecks and bits of laminations of pink and green stucco, in all probability the surface of sheets of a Maya codex. San Agustín, presumably because of its position, not far from Quiriguá, followed to a limited extent the practice of setting up stelae, as one complete and two broken stelae, all three unsculptured, have been found here. At some unknown date it was settled by Mexican immigrants, and Nahuatl continued to be spoken there until less than a century ago.

At a time which probably corresponds to near the end of the initial series period and the transition to the Mexican period, plumbate pottery first makes its appearance in various parts of the southern area. The importance of plumbate as a chronological yard stick is well known, but the situation in the southern area is a shade complicated. At Kaminaljuyú, in the Amatle and perhaps the Pamplona phases, at San Agustín Acasaguastlán, and at El Baúl, on the Pacific slope, plumbate vessels have been found under circumstances which suggest an earlier appearance than that of the Mexican period, since at San Agustín plumbate is found with examples of figure painting, and at the other two sites it is associated with pottery which on less direct evidence is attributable to the same horizon. As already noted, figure painting appears to have continued in the northern fringes of the southern area

[9] Kidder, 1935.

after it had gone out of use in the central area, but if our dating scheme is correct, one would hardly expect it to survive into the Mexican period. In actual fact, this does not appear to have been the case.

Plumbate vessels at the three sites mentioned are not fashioned in the effigy shapes or certain other forms which were exported far and wide during the Mexican period, but are of simple shapes, principally tall, cylindrical vases, which have never appeared in plumbate outside the southern area (Pl. XII, *d*). Also, a number of these plumbate vessels and sherds from these three sites seem to be made of a softer clay, and there are many more failures to achieve the greenish-gray luster found on most plumbate pieces of the Mexican period. Accordingly, it rather looks as though we were dealing with an earlier stage of plumbate, one in which the potters were not too sure of getting the color and finish they sought, and in which the more elaborate forms were yet undeveloped. It is a very natural process. Many modern firms have a long uphill climb before they produce an article which has enough merit to meet local competition in overseas markets. These vessels, which may be the first products in plumbate, are interesting, but their appeal may not have been sufficient to induce customers in distant Chichen Itza or central Mexico to pay a price big enough to meet the high costs of transportation on top of the original cost of production. To reach Yucatan, the vase had to travel hundreds of miles on the backs of carriers and in the bottoms of dugouts, and that can not have been a cheap freight rate in terms of Indian purchasing power. Thus, if this theory is correct, there was a development of plumbate at about the close of the initial series period and during the subsequent transition. The novelty of the ware was sufficient to win it a good market in scattered parts of the southern area, but it was not until the Mexican period, when greater skill in firing and embellishing the vessels had been achieved, that a really wide export market was gained.[10]

At El Baúl, sherds of black-on-white ware, and of what Lothrop has called red-on-orange lacquer ware are associated with the simple plumbate forms. The former may be in the negative painting technique, or, at any rate an imitation of it, and is probably related rather closely to Lothrop's orange lacquer ware with negative painting in black or negative painting on brown ware. Red-on-orange lacquer ware is common in El Quiché. Also attributable to this horizon overlapping the end of the initial series period is the big development of Tiquisate ware, pottery with a slip of cream which ranges from ivory to a reddish orange, which is widespread along the Pacific slope. The finest examples

[10] Thompson, 1941*a*, has the most recent discussion of chronological value of plumbate. Dutton, 1942, has an interesting summary of plumbate in literature.

are carved, usually with a crisscross background for the panels which carry representations of persons or animals in combination with simple geometric designs, such as step frets. Inconclusive evidence suggests the inclusion in this horizon of a specialized type of quite large figurine, sometimes of Tiquisate ware, which is fairly numerous on the Pacific slope. These almost always represent seated women, and stand on a hollow rectangular or triangular base. Some are of the back-to-back Janus type with similar figures molded on front and back (Pl. XI, *a*).

The well-known sculptures of Santa Lucía Cotzumalhuapa, El Baúl and neighboring sites belong to the initial series period, and in all probability continued into the transition to the Mexican period. Subject matter, the glyphs and many of the motifs are unmistakably Mexican, but certain characteristics, such as the deep undercutting between lid and pupil of the eye, make examples of this style readily recognizable (Pl. X, *a*). Scenes representing such matters as human sacrifice with the participation of the Mexican military orders of Jaguars and Eagles, and invocations of deities who peer down from the sky are executed in low relief, but with a stiffness which contrasts strangely with the complexity of the scenes. Sculpture in the round is often provided with tenons. The Mexican deities Tlaloc, Xipe, Quezalcoatl-Eecatl and Tlalchitonatiuh are recognizable.

This school of sculpture has been widely assigned to the Pipil, but this term is too comprehensive, since the zone where the Cotzumalhuapan style prevails is only a fraction of the area settled by the Pipil. On the other hand Cotzumalhuapan style markedly influenced the sculptures of Antigua, a region for which historically and linguistically there is no evidence of a Mexican penetration in force. Incidentally, the Cotzumalhuapa area was not Pipil-speaking at the time of the Conquest.

One stela at El Baúl, that with the supposed seventh cycle initial series, shows influences from Izapa, and this same style is found at San Isidro Piedra Parada, farther west along the Pacific slope, together with a relief in La Venta (Olmec) style. The chronological positions of these two styles are uncertain.[11]

Cotzumalhuapan sculpture is associated with pyramids having stairways of beautifully dressed stone set around courts partly paved with blocks of a laminated slate-like stone. The sites are in open country, which, as we shall see, may be significant.

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[11] Termer, 1930 and 1931, has a general survey of Guatemalan highland archaeology and this region in particular. See Carnegie Institution of Washington, year 1943; Strebel (1901) and Thompson (1941) for Cotzumalhuapan sculpture. The latter dates sculptures too late. See Stirling, 1941, for Izapa; and Thompson, 1943, for San Isidro Piedra Parada.

Asunción Mita and Papalhuapa in the southeastern corner of Guatemala are remarkable because of large rooms with corbeled vaulting. This is a feature unknown in the southern area except at San Agustín Acasaguastlán, as burial vaults at Ilom, and, in a poorly developed form, at one or two other sites on the fringes of the central area. The vaults and walls at Asunción Mita are made of flat slabs of naturally laminated stone, and the buildings rather resemble some in the Usumacinta Valley except that the stone is set in mud. Furthermore, just below the spring of the vault there is a single line of undressed lava boulders, their dark color contrasting strikingly with the gray of the laminated stone. However, this was probably not perceptible when the buildings were in use, since surfaces were almost surely covered with adobe or plaster. Presumably, these corbeled buildings represent an influence from Copán, some forty-five miles distant in a direct line, where stone was also set in mud; therefore, they probably were erected during the initial series period. However, Asunción Mita continued to function as a ceremonial site until the Spanish conquest. A small collection said to be from there includes such features of the Mexican period as effigy vessels of plumbate, and a vase of Mexican onyx together with a neatly made fake in the form of a vessel carved with monkeys. One is wary of accepting proveniences claimed by pot hunters for their finds since a statement that a collection comes from a well-known ruin is supposed to enhance its value, and when, as in this case, a fake is said to be part of the find, one knows there is some monkey business.

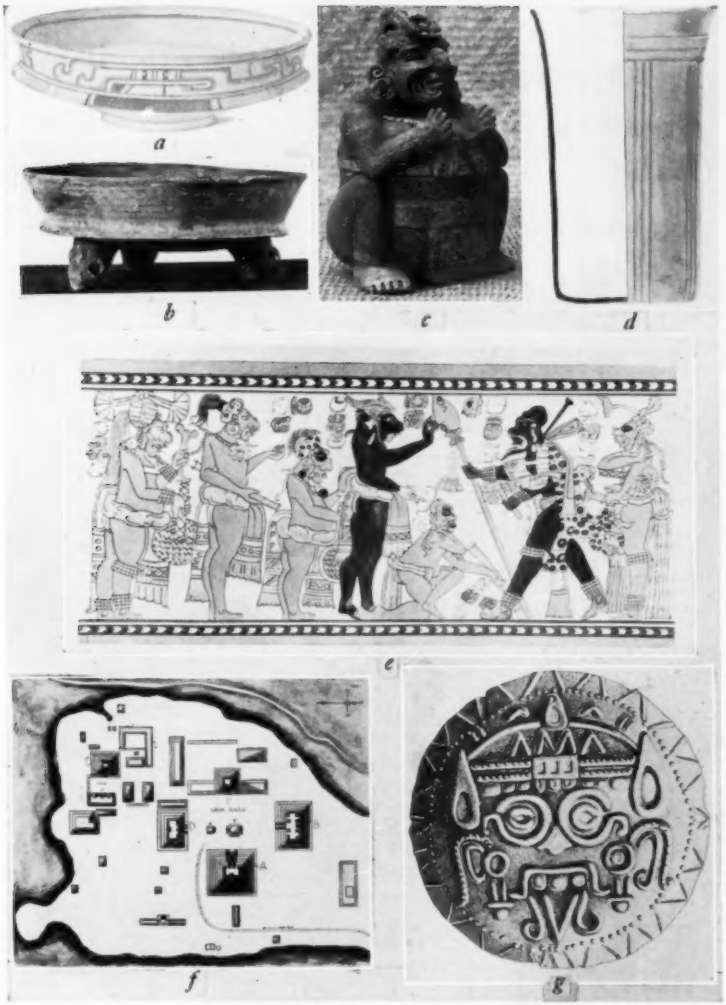
On the other hand, other collections from Asunción Mita, now in the Aurora Museum, Guatemala City, include material attributable to the close of the initial series period.

Little progress has been made in dating stone sculpture, which in many cases is remarkable principally for its uncouthness, and in that respect is more than a shade like the products of some modern schools (if one can qualify as a school something which entirely lacks discipline). Except at the Cotzumalhuapan sites, there is a lack of any conventions of portraiture, and the classical style of Maya beauty is entirely absent. The poorest and best sculptures often occur at the same site, and we have hints that in some cases they belong to the same cultural horizon. It is possible that some of the most crude sculptures in the round were frames on which the actual portraits were molded with greater realism. With the passing of time the plaster would disappear, leaving the crude stonework.

Most of the sculptures at Kaminaljuyú presumably fall in the initial series period, since the site appears to have been abandoned before the start of the Mexican period, but some might date back to the formative

a, crab god in Cotzumalhuapan style, El Baúl. Height 1.00 m.; *b*, jade in La Venta style, near Joyabaj (?) Rossbach collection. Height approximately 7 cm.; *c*, metate, Olintepeque, Robles collection. Length 34 cm.; *d*, mushroom stone, no locality. Courtesy Field Museum of Natural History. Height approximately 45 cm.; *e*, flat stone head, Totonicapán (?) Courtesy Field Museum of Natural History, Chicago; *f*, tenoned head, Finca El Portál, Antigua. Height 56 cm.; *g*, *h*, prowling jaguars, Finca El Portal. Lengths 64 cm., 68 cm.

a, figurines with rectangular or triangular bases. Nos. 3, 5, 7 of Tiquisate ware, 8 pink, rest weathered, 7 Janus type, 8 reminiscent of Teotihuacán II–III. Larrañaga collection, Tiquisate; *b*, vessels in Rossbach collection, Chichicastenango. Two in center basal-flanged-bowl phase, left perhaps figure-painting phase; *c*, design on vase of Guastatoya. After Carlos Villacorta.



a, basal-flanged bowl, S. Cruz Quiché (?) After Stoll; *b*, bowl with negative painting, Ratinlixal. Courtesy University Museum; *c*, vessel from Esperanza tomb, Kaminaljuyú; *d*, vase of plumbate ware, simple type, El Baúl; *e*, design on figure painted vase, Chamá. After Dieseldorff; *f*, plan of main group, Zaculeu. After J. Acosta; *g*, gold disk, Zacualpa. After Lothrop (inverted).

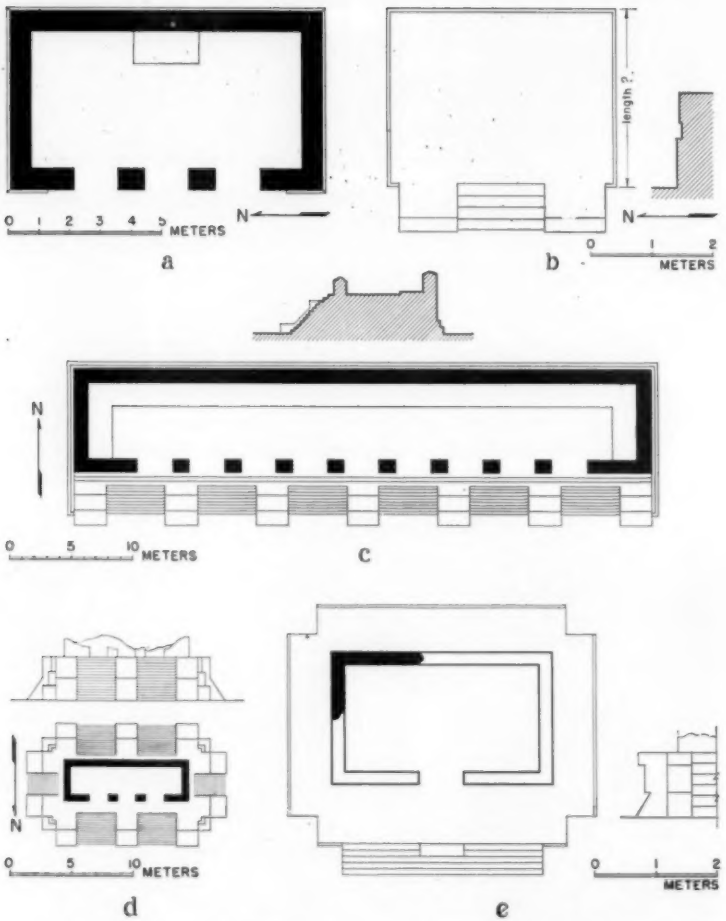


FIG. 16.—*a*, main temple, Zaculeu; *b*, *momoztli* structure, Chutix Tiox; *c*, *d*, structures at Rabinal. After A. P. Maudslay; *e*, structure, Chutix Tiox. Sketch, measurements approximate. Draughting by Tatiana Proskouriakoff.

period. Stones shaped like huge mushrooms are found here and in many other sites of the southern part of the Guatemalan highlands and El Salvador. These are shafts usually standing on a low tripod pedestal and topped with a hemispherical cap. They are generally around eighteen inches high, and sometimes the shafts are shaped as animals or persons (Pl. X, *d*). It has been suggested that they might have served as stools, but could hardly have been very comfortable. They occur in the Esperanza phase at Kaminaljuyú, but appear to have continued in use after that, for at El Baúl they are found under circumstances which indicate their use at the close of the initial series period.

Smaller objects of stones attributable to the close of the initial series period include stone yokes, similar to those of southern Veracruz and adjacent parts of Puebla and Oaxaca, but in the southern area they are usually undecorated. Examples have also been found at Copán and Palenque, but none in the Petén or the northern area. With them are frequently found flat stone heads, about a foot tall, but only a couple of inches thick, carved on both sides with profiles of heads of persons, animals, snakes or skulls. The designs on both faces are always identical, and usually are executed with not a little refinement and skill (Pl. X, *e*). They, too, represent an influence from the Veracruz region, and, like the yokes, are particularly concentrated on the Pacific slope, and around Antigua, where Cotzumalhuapan influences are strong, but mixed with a style that recalls Tula (Pl. X, *g*, *h*). However, one tenoned sculpture, of Maya type, is reminiscent of Miraflores figurines (Pl. X, *f*).

Eccentric flints are known only from Chimaltenango, El Baúl, and Salcaja. Only those at El Baúl are datable. They fall in the initial series period. Flint work is always rare in the southern area, except on the fringes of the central area and in central El Quiché, where there are said to be natural deposits. Small wedge-shaped axes of polished hard stones, including jade, are extremely common in El Quiché, but rare in some parts. Their absence at Kaminaljuyú and El Baúl suggests that they should be assigned to the Mexican period.

From El Quiché comes a rare type of sculpture on flat stones with undecorated areas cut way.[12] Kidder has found fragments of others in deposits of the Esperanza phase.

The Esperanza tombs at Kaminaljuyú have yielded much jade, but most of it is undecorated. Apart from the few decorated pieces from there, and some from burials of the initial series period in the Alta Verapaz, little or no jade in the southern area is as yet datable. Typical of El Quiché are small amulets of a soft gray to green stone with figures of

[12] Sayille, 1924.

gods or men delineated on their surfaces with shallow straight lines. One might hazard that these belong at the close of the initial series period. Of interest is the jade in La Venta style (Pl. X, *b*).

As in the central and northern areas, sites in the southern area were abandoned between the close of the initial series period and the start of the Mexican period. It is not yet possible to say how extensive was this abandonment, but of the few excavated sites, Kaminaljuyú, El Baúl, and perhaps San Agustín Acasaguastlán were deserted at that time or very shortly thereafter.

THE MEXICAN PERIOD

It is far from clear whether the period of Mexican political domination in the southern area is strictly contemporaneous with the Mexican period in Yucatan. Architecture and religious and political organization in the southern area supply ample evidence that such influences were at some time very strong in that region. On the strength of finds at El Baúl, invasions of Mexican-speaking peoples appear to have taken place during the initial series period, perhaps toward its close. These were actual migrations since the invaders brought with them Mexican hieroglyphs. Furthermore, the Quiché and Cakchiquel chiefs, as those of Yucatan, conserved traditions of an original home in Tula. One would be inclined to suppose that the establishment of these Mexican families ruling over Maya groups was an outcome of the Mexican settlements along the south coast, a further expansion not in sufficient strength to impose the Mexican language. However, the strong Tula tradition argues against this. The best evidence now places the breakup of Tula in the twelfth century and the Quezalcoatl saga in the tenth century, both dates too late, if our correlation is correct, to check with an invasion during the initial series period. The explanation of a single migration or single spread of Mexican ideas is probably too simple. Furthermore, we do not yet know to what extent the Mexican ceramic influences in the Esperanza tombs at Kaminaljuyú (*circa* A.D. 350–650) reflect influxes of ideas and, perhaps, even people. The possibility of three waves of Mexican influences cannot therefore, be discarded.

So far as artifacts are concerned, phases coeval with the Mexican period in Yucatan are well represented, but only in the Alta Verapaz and adjacent northern El Quiché has a local development of the Mexican period been found under circumstances that conclusively show that it overlies the initial series period.

The changes in pottery from one period to the other are remarkable. The beautiful figure painting has entirely disappeared, and polychrome of any kind has become extremely rare. Of slightly over fifty vessels

from graves of the Mexican period at Chipal, Alta Verapaz, only one is polychrome, and that is a miserable affair of sorry shape, decorated only with an inelegant band of what may be broken-down glyphs. On the other hand, good effigy plumbate of the wide-export kinds is well represented, and vessels of an orange ware that may be related to the Fine Orange of the Mexican period in the northern area are not uncommon. Vessels of Mexican onyx and tripod dishes with feet shaped as heads of animals or persons, both criteria of the Mexican period make their first appearance.

Non-ceramic furniture does not vary to any marked degree and burials continue to be in the seated position. Some burials at Chipal, an important site in this district, may belong to a later phase of the Mexican period. These had no plumbate, Fine Orange or polychrome vessels, but they yielded bells, rings and a hair ornament of copper, gold beads, strips of gold with holes punched at the end, probably so that they might be sewn on cloth or laced together to form a wristlet, fragments of a turquoise mosaic, obsidian earplugs and shell armlets. There is a similar association of copper with turquoise in burials of the Mexican period at Chichen Itza.

However, at Tajumulco, in the Department of San Marcos in western Guatemala, Miss Dutton and Miss Hobbs found plumbate and copper in the same graves. There plumbate vessels were extremely numerous. It is not improbable that these burials at Tajumulco represent a phase between the burials with plumbate but without metal, and those with metal but without plumbate just noted as occurring in northern El Quiché and the Verapaz.[13]

Zaculeu, a large site in the Department of Huehuetenango, on the northwestern border of the southern area, sheltered a grave containing two skeletons. The furniture included an effigy vessel of plumbate, a pair of large earplugs made of a mixture of gold and copper, and a metate with three feet, that at the front being much higher, and shaped as the head of some animal, probably the coati.[14] There is evidence from other quarters that this type of metate with head in relief at one end is attributable to the Mexican period. Again at Zacualpa, in central El Quiché, there is a strong Mexican horizon in which plumbate effigy vessels and tripod dishes with effigy feet are strongly represented.[15]

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[13] Dutton, 1939 and 1942; Dutton and Hobbs, 1942. Since the above was written many plumbate vessels of queer forms have been found in association with a gold disk at El Paraiso, south of Quezaltenango, not very far from Tajumulco.

[14] Villacorta and Villacorta, 1927, p. 158.

[15] Wauchope, 1941 and 1942; Wauchope in Carnegie Institution of Washington, year 1936.

Gold ornaments are also reported from a tomb at Zacualpa, central El Quiché, but either the tomb was used more than once or the contents have not been properly listed, for more than one period is represented by the pottery, and it is to be doubted if any of it is as late as the gold which may belong to the Mexican absorption period. It has been claimed that one of these ornaments, a gold disk in repoussé, is of Peruvian (Chavín) workmanship, and this identification has been used in support of Peruvian-Middle American contacts.[16] However, if the illustration is turned upside down a very clear and distinctly Middle American representation of the rain god Tlaloc is revealed, an identification first made I believe, verbally, by Dr. Alfonso Caso (Pl. XII, *g*). Apart from his typical features, this Tlaloc wears the pointed crown (of bark cloth), one of the insignia of the rain gods in Mexico, and has circles on his cheeks to represent the little disks of *chia* dough which characterized the Mexican rain gods.

No horizon corresponding to the Mexican period has been found at either Kaminaljuyú or El Baúl.

In the field of architecture there are a number of structures which can be assigned to the Mexican or Mexican absorption periods, and a change in the location of sites is very probably a chronological and psychological indicator. Sites known to have been occupied during the initial series period, such as Kaminaljuyú, El Baúl, Asunción Mita, and San Agustín, are situated on open land without any obvious defense. It is not improbable that most early sites in the southern area were similarly located, and in that respect are comparable to the great majority of ceremonial centers in the rest of the Maya area. On the other hand, sites known to have been of recent origin and others suspected of being late are for the most part situated with an obvious eye to defense. They are generally placed on tongues of land surrounded on two or three sides by deep ravines, or they are perched atop steep hills easily defensible on two or more sides.

Of such sites, Zaculeu, about two miles from the modern city of Huehuetenango, is typical.[17] At the time of the Spanish Conquest it was the stronghold of the Mam Maya, and was defended by the Mam chief Caibil Balam against a force under Gonzalo, brother of the infamous Pedro de Alvarado. With ravines on two sides and a steep fall to the river on the third, it could be approached only across a narrow neck of land to the north. The position was so strong that it was hunger not assault that finally forced its surrender.

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[16] Lothrop, 1936.

[17] Villacorta and Villacorta, 1927; Acosta, 1930.

The various pyramids and mounds there conform to a general scheme of orientation, and in assemblage resemble somewhat cities of the central area. There is a large ceremonial court (approximately 180′ ×130′) with a fairly high pyramid on the east side, rectangular structures to north and south and a small pyramid atop the center of a long mound on the west side (Pl. XII, *f*). The main pyramid is formed of six or seven superimposed terraces with vertical sides. On the front (west side) there is a wide stairway divided by a plain ramp running up the center into two parallel flights of steps. This division of the stairway by a medial ramp is reminiscent of the double stairways of many Mexican pyramids, but in Mexico the ramp is really the adjacent inner balustrades of the two parallel staircases, whereas this stairway at Zaculeu has no outer balustrades. However, the Zaculeu ramp has the distinctly Mexican feature of changing from a fairly sharp incline to the vertical a brief distance short of the summit. A modification of this arrangement is to be seen on the Temple of the Warriors at Chichen Itza.

On top of this pyramid at Zaculeu are the remains of a one-room temple. Two rectangular piers set in the doorway converted it into a triple entrance. The room itself is twenty-nine and a half feet long, and just under fifteen feet wide (Fig. 16, *a*). A rectangular altar of masonry stands against the center of the back wall. The roof is entirely gone, but could not have been corbeled because of the room width. It was probably of thatch, but a beam and mortar ceiling can not be ruled out. The bases of the exterior faces of the walls have a sloping apron, similar to those of buildings of the Mexican period at Chichen Itza, which are also associated with triple entrances.

Walls of buildings at Zaculeu and retaining walls of pyramids and platforms are of undressed stones, round or naturally laminated, set in mud. All such surfaces were heavily coated with plaster.

In the center of the ceremonial court are the remains of two small rectangular platforms. These are rather badly destroyed, but as almost every large site in the northern highlands of Guatemala has one or more of these little altar platforms, it is easy to see what form they took. They were almost certainly used as places for sacrifices and offerings, indeed they continue to serve that purpose in some of the more remote ruins, whither Indians still come to make their offerings of copal incense. They correspond in size and probably in function to the offertory shrines known in Mexico as *momoztli*. A typical example at the ruins of Chutix Tiox, near Zacapulas, in central El Quiché, stands to a height of slightly over five feet, and is approximately twelve feet wide by nine feet deep. A sunken panel is set in the thickly plastered vertical walls. On the west side, five steep steps flanked by heavy balustrades give access to the

flat summit, on which there are traces of a tiny building, amid the ruins of which a hearth, scooped out not many years ago, held the ashes of a recent offering of copal (Fig. 16, *b*).

At Zaculeu, as in most sites in the southern area, there is a ball court. The narrow playing alley is flanked by gently sloping inclines and with low transversal walls, with short extensions at right angles, at the open ends of the court. Several of the platforms have remains of collapsed buildings on their summits, and the peculiar staircase with medial ramp occurs elsewhere at this site. The architecture, from the little yet known about highland structures, tends to confirm the historical information that the site was flourishing at the time of the Conquest, since it appears to date from late in the Mexican period and the sequent horizon. The burial from here, already mentioned, supports this conclusion.

Rabinal, in the Baja Verapaz, another easily defendable site known to have been occupied at the time of the Spanish conquest, has some standing buildings.[18] These include a one-room temple with a triple entrance, like that of Zaculeu, formed by two square columns set in the doorway. There are staircases on all four sides of the low pyramid on which it stands. Those at the front (north) and back have balustrades, the inclining surfaces of which change to near vertical near the top, and a medial ramp, of the same form, which converts them into twin flights of steps (Fig. 16, *d*). In front of the temple is a *momoztli*, and on the north side of the court stands a building with a single room no less than 148 feet long and twenty-one feet wide. The front is a colonnade with short lateral walls flanking eight rectangular columns, and inside the room a low bench is set against the whole length of the back and side walls. A staircase, the whole length of the room, which leads from the court to the building, is divided by ramps into six parallel flights of steps (Fig. 16, *c*). The ground plan is strongly reminiscent of the colonnaded structures of the Mexican and Mexican absorption periods in the northern area. From the vicinity of the ruins come effigy plumbate vessels and feet of tripod dishes shaped as human or animal heads, also indicative of an occupation during the Mexican period.

Chutix Tiox supplies a case of superposition of structures which may be significant. Over a long, rectangular platform of stone with a well-plastered surface had been added another 50 cm. of dry masonry, on which, in turn, stands a long building with interior measurements approximately 67 by 13 feet. This, too, is of dry masonry, and probably had a beam and mortar roof, for along the back wall, beam holes

[18] Maudslay, 1889–1902, Vol. 2, Pl. 70.

were in line about 39 to 52 inches apart except for a space of about six and one-half feet at the west end. The front (S.) of the structure is badly collapsed, and the arrangement can not be made out without excavation, but the paucity of debris suggests a colonnade, like that at Rabinal. The dry masonry might result from the leaching out of mud binding. At any rate there was a change from the use of excellent plaster to dry masonry or masonry laid in mud.

A small pyramidal structure at this site has a profile almost identical with those of structures of the Mexican period at Chichen Itza (Fig. 16, *e*).

Utatlán, close to the modern town of Santa Cruz Quiché, became the capital of the Quiché a short time before the arrival of the Spaniards. It is surrounded on three sides by ravines, in places four hundred feet deep, and the only approach is across a narrow neck of land, forming a kind of causeway. Owing to its proximity to the modern town, it has served for many years as a handy quarry, and all its pyramids and mounds have been stripped of their stone facings. A hundred years ago, at the time Stephens and Catherwood visited the site, one structure was still in a fair state of preservation. This was a small steep pyramid with balustraded stairways on three sides. These led to a small flat summit without any traces of a building on top. The retaining walls of the pyramid had been heavily plastered, and there were still traces of elaborate paintings on these. As at Zaculeu and Rabinal, the upper parts of the balustrades changed to the almost vertical.

Iximché, which had been the Cakchiquel capital for about a century prior to Alvarado's invasion, is also surrounded on three sides by deep ravines. There are some seventy mounds there, almost all in a very poor state of preservation. Other examples of easily defended sites are Chutix Tiox, which is on top of a hill steeply sloped on three sides, and the important ruins of Rio Blanco, located in the peninsula formed by the confluence of the Blanco and Negro Rivers. At both sites, walls and artificial terracing strengthened the natural defenses. However, Xolchun, in the outskirts of Aguacatán, between Huehuetenango and Zacapulas is placed in an open valley bottom. It would be interesting to excavate at this site to learn whether it was of early date and whether it was occupied during and after the Mexican period.

The way in which so many of these late sites were obviously chosen for their defensibility contrasts with the absence of any defensive dispositions in the planning of sites of the initial series period in the central and northern areas and perhaps in sites of that period even in the southern area. This may well be highly significant. Furthermore, some sites in the northern and central areas, which are known to have flourished

shortly before the Spanish Conquest were built with an eye to protection since Mayapan and Tulum had stone walls, Tayasal was situated on a peninsula, and some towns in the central Petén visited by Cortés had city walls of cactus or maguey.

There are good reasons for believing that the great ceremonial centers of the central area were not permanently inhabited, and the same was probably true of the coeval sites of the northern area, but at the time of the Spanish Conquest these easily defended sites of the southern area, such as Zaculeu, Iximché and Utatlán were permanently inhabited, and the same was true of Mayapan until a few decades before the conquest.

Thus, there are grounds for postulating that a few centuries before the Spanish Conquest there was a shift from centers used primarily for religious purposes, to regular towns which contained homes of laymen in addition to the buildings dedicated to divine purposes, and that with this change there arose a need for defense against attack. It is extremely probable that this quite profound change, which implies a less supreme position for religion, and a swing from a theocratic to a military organization, was due to influences from Mexico, where the town was built around the temple, which was the arsenal and fortress of the tribe. In this connection, it is worth noting that there is no distinctive name for a town in many Maya languages or dialects. In some cases, particularly in the Guatemalan highlands, the Nahuatl word *tinamit* or some variant thereof, signifying fortified town, is generally used. Thus, in function, name, and in architectural features these late sites show a strong Mexican permeation.

MEXICAN ABSORPTION PERIOD

Politically and sociologically we know that there was a period in the southern area, as in the northern, during which Mexican innovations in the political, religious, and psychological fields were being molded to the Maya pattern of behavior, but in the southern area the archaeology corresponding to it is as yet almost unknown. Yet evidence in Yucatan and in central Mexico makes it clear that at least three centuries intervened between the disappearance of plumbate export trade and the Spanish Conquest. A shorter correlation might win favor, leading to the suppression of the transition from the initial series to the Mexican period, but there will be always be, like England, a post-plumbate horizon.

The Zacualpa gold may fit in the Mexican absorption period, and to it belongs the last horizon at Zacualpa, which like the corresponding horizon in Yucatan, is dull and shows signs of artistic retrogression. A

change from inhumation to cremation indicates an infiltration of new ideas, found also in Yucatan. Some of the material excavated at Chiuitinamit, on the shores of Lake Atitlán, may well belong to this same horizon.[19] Plumbate was definitely absent, and there are certain indications of lateness, apart from the fact that the site is known to have been occupied at the time of the Conquest.

There is a certain amount of written history to supplement this scant archaeology of the last stages in the southern area. Unhappily, it covers barely two and a half centuries. Worse still, details are confined almost entirely to accounts of famous victories. Two line descriptions of campaigns make dull reading at the best of times, and one can only repeat old Kaspar's account of the battle of Blenheim: " 'But what they fought each other for, I could not well make out; but everybody said,' quoth he, 'that 'twas a famous victory.' "

The three most important sources for the history of the southern area in the two centuries prior to its conquest by Alvarado are the book called the *Popul Vuh*, the Annals of the Cakchiquels and the writings of the historian Fuentes y Guzman.

The *Popul Vuh*—'Book of the Community'—is a history of the Quiché from the creation to the Spanish conquest. It is written in the Quiché language but in European script, and was probably oral tradition reduced to writing about the middle of the sixteenth century. The greater part is devoted to an extremely important account of the creation and of the adventures of the sun and his brother during their residence on earth. The truly historical section is short and lacking in detail.

The Annals of the Cakchiquels is an historical narrative from the Cakchiquel viewpoint. It contains more information than the *Popul Vuh* in that respect, but is still far from voluble. It is written in European script but in the Cakchiquel language, and dates in it are recorded in the native calendar. The greater part was written by a native Cakchiquel about 1560.

Fuentes y Guzman, who wrote a history and description of Guatemala in the second half of the seventeenth century, has a style which in flamboyancy equals that of the old Fourth of July orator, and many of his statements are not much more trustworthy. However, he drew on certain native manuscripts, now unfortunately lost, which augment the victories recorded in the *Popul Vuh* and the Annals of the Cakchiquels, but even here one gets little more satisfaction than did young Peterkin and little Wilhelmine from old Kaspar sitting in the sun.

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[19] Lothrop, 1933.

Without much doubt the wars were largely fought over territory, although Fuentes y Guzman has an improbable story that one of the longest wars was over a daughter of the Quiché ruler stolen by the Zutuhil chief. Actually, the Quiché and Cakchiquel sought to expand at the expense of the Zutuhil and Pipil to the south of them. These two latter peoples controlled most of the finest cacao-producing lands. These were situated on the Pacific slope of the highlands, and were a source of great wealth because cacao was used as currency. The long wars appear to have been attempts of the have-nots to wrest these from the haves. It seems that the Quiché first conquered a wedge of cacao-producing territory of the Mam, in what is now the southeastern part of the Department of Quezaltenango, and one suspects that much of the territory they controlled at the time of the Spanish conquest in the region immediately to the east, and which was known as Zapotitlán—'Near the Zapote trees'—was once Zutuhil territory. At any rate, it was not always Quiché, and we know of one definite town, Zamayaque, which was taken by the Quiché from the Zutuhil. This happened while its chief and his men were with the rest of the Zutuhil army attacking the Quiché stronghold of Quezaltenango.

In the sixteenth century, Zamayaque was a very large town, through which was exported all the cacao harvested in that, the richest cacao-producing region in Guatemala. Indeed, at that time cacao was shipped thence to central Mexico. Therefore, whoever held this region was the possessor of much of Guatemala's wealth.

The Cakchiquel also seized good cacao lands belonging to the Zutuhil, notably Patulul and the surrounding district, and it is not improbable that they drove the Mexican-speaking Pipil out of territory to the east of that of the Zutuhil, thereby separating the allies. It is quite likely that at that time the sites of El Baúl and Cotzumalhuapa passed into the hands of the Cakchiquel, for we are told that the Pipil, greatly reduced in numbers by the long wars, had to yield territory, and were finally forced to sign a peace in which they were made to turn against their old allies, the Zutuhil. The Laval of the Pipil was a certain Tonaltut, but with this surrender the Pipil ceased to exist as one of the four great powers of Guatemala.

Prior to these wars of Quiché and Cakchiquel expansion, historical tradition tells us there was a period when these two peoples and the Zutuhil were united under Quiché rule, but first the Zutuhil broke away, and then the Cakchiquel, taking advantage of a civil war among the Quiché, asserted their independence, and succeeded in retaining it until Alvarado's arrival.

The lists of head chiefs given in the various sources are in complete disagreement, and little can be made of them save that among both the

Cakchiquel and Quiché two chiefs appear to have served as co-rulers. Among the Aztec also there was a dual rulership with one of the pair perhaps in a slightly junior position. As the ruling families of both these highland Maya peoples claimed descent, like the ruling families of Yucatan, from Toltec ancestors, it is more than probable that this dual rulership is of Mexican inspiration. Among the Cakchiquel, the joint rulers come from two different families, and whenever one ruler died he was succeeded by another member of the same family.

To add to the general confusion, many of the Quiché and Cakchiquel chiefs are referred to by their calendar names (i.e. the name of the day on which each was born), and one suspects, but can't prove, that some of the names of persons are not those of distinct individuals, but are the regular surnames of chiefs elsewhere referred to by their calendar names, just as a stranger might suspect that The Little Flower and Mayor La Guardia were one and the same person, but with a page of the *New York Times* and half a paragraph of the *New Yorker* might find it tolerably difficult to prove.

Of the other political groups in the southern area, history tells us even less. The Mam at one time and another were allied with the Zutuhil, at first to repel aggression, later, seemingly, in vain attempts to win back lost territory in the south. The Pokoman, who were living around what is now Guatemala City in the sixteenth century are said to have migrated thither from El Salvador at the invitation of the Cakchiquel with the object of serving as a sort of buffer state against attacks from groups of Pipil settled to the east.[20]

The various political changes outlined above can have had little ethnic importance, since the dialects of these highland villages blend so imperceptibly the one into the other, that it is impossible to say where Quiché begins and Zutuhil ends. For that reason the inhabitants of towns that changed hands could act the part of the Vicar of Bray without any patriotic qualms. Although divided politically, economically the whole area was assuredly a single unit with a complex system of trade routes disregarding political boundaries, for even today trade, although notably modified by the economic system of the white man, functions without reference to linguistic and former political divisions.

In conclusion, it is not amiss to note how the same general pattern runs fairly consistently through the histories of the three Maya areas. There evolves everywhere a strong theocracy, which because of lack of defenses, we must assume to have been peaceful. This terminates after a most brilliant period in a widespread abandonment of ceremonial

[20] See Mason, 1940; Johnson, 1940, for linguistic affiliations and territories of these tribes. However, evidence is lacking that Maya-speaking peoples reached as far south as the Pacific coast, as shown in every linguistic map of the Maya area.

centers, not only in the central area, but also in Yucatan and in the Guatemalan highlands. Perhaps the priest rulers were overthrown. There then arises an urban and highly war-like society with its roots in Mexico. Next, the Maya pattern of culture tends to reassert itself, and Mexican concepts and deities are modified or dropped. Finally, there supervenes a period of disintegration in which large political groupings are replaced by a process of Balkanization to the accompaniment of a marked retrocession in the arts. Lessons, if any, to be drawn from these parallel evolutions must await fuller information. It is well to resist recent efforts to chivy those working in the Maya field into promulgating rules of human behavior on the basis of far from complete data, the interpretation of which is in many cases still very open to question. One might rather ponder the lines Francis Quarles wrote three hundred years ago: "Judge not the play before the play is done: her plot hath many changes; every day speaks a new scene; the last act crowns the play."

Some day our discipline may aid in defining those conjectural and elusive laws of human conduct, but in my opinion that would be a secondary result of our work. Surely archaeology's real justification is that it responds to a human urge well phrased by an immortal character in Norman Douglas' *South Wind*. The sybaritic Mr. Keith, in the course of a much-interrupted monologue, remarks, "I like to understand things, because then I can enjoy them. I think knowledge should intensify our pleasures. That is its aim and object so far as I am concerned."

This tentative outline of the history of the southern area was prepared as a stimulus, but on rereading it, I note an undesired touch of certainty that has crept in, as though it were the last act, not an early scene. This is largely the result of lack of space for the discussion of alternative reconstructions. Let the reader bear in mind the pitifully little controlled excavation so far made in the area, and read each statement in that light.[21] To Dr. A. V. Kidder, whose knowledge of the archaeology of the Guatemalan highlands is unrivalled, I owe much for his help and advice in the preparation of this survey. He himself should have written it, but, somewhat in the manner of the Duke of Plaza Toro, he encourages others to stick out their necks.

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[21] Alas! Few of us can hope to emulate the Maya archaeologist, villain of "Jungle Harvest," a recent serial in the *Saturday Evening Post*. He had written the first chapter of his report on the excavations by nightfall of the first day of the dig!

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Carnegie Institution of Washington
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DISCOVERY OF THE CHAVÍN CULTURE IN PERU[1]

JULIO C. TELLO

THIS paper is a summary of the studies and surveys made in late years to acquire a knowledge of the characteristic features of the Chavín culture, and to determine its zone of diffusion in the territory of the Incas or Tawantinsuyo.

INTRODUCTION

In 1919, while exploring the basin of the Mariash or Pukcha River, one of the upper Amazon affluents, I found in Chavín de Huantar evidence of a culture that, up to then, had not been given due recognition. I proved that certain buildings and other products of aboriginal art found there belonged to a quite distinctive cycle of culture—that of the Chavín stone culture. Monolithic figures of serpents and felines, representing human heads, and stelae, obelisks, sundry utensils, and other objects decorated with incised or carved figures in plane, high or low relief, representing grotesque felines, serpents, fish, lizards and birds are the main features of this culture, whose area of diffusion had then been reconnoitered only in the provinces of Huari and Pomabama.

Subsequently to 1919, I recognized in collections of Peruvian antiquities, in Peru and abroad, a few examples of pottery and gold-work decorated with Chavín motifs; such as a jug in the Elías y Elías collection made at Moropón in the Piura Valley; another in the Ramón Muñoz collection from Cajamarquilla, Department of Ancash; a gold plate in the Dalmau collection at Trujillo; two jugs in that of Lizandro Velez López at Trujillo; a jar in the Máximo Neira Collection in the same city; a jug in the Antonio Raymondi Collection, now in the San Carlos University Museum; a picture of a jug published in the well-known works of Charles Wiener, Arthur Baessler and Max Schmidt; a broken jug found by Max Uhle in one of the graves opened by him in front of the Huaca of the Moon in Moche; and various specimens, for the most part published by me, in the Trujullo Collection of the brothers Victor and Rafael Larco Herrera. I also recognized clear evidence of Chavín art in various gold pieces discovered by the Galloso brothers at Chongoyape, and in a specimen of the *Strombus* conch recovered by Abraham Pickman during work near the Chiclayo air base.

In the middle of 1925, I discovered in the rubbish heaps and burial caves of Cerro Colorado, in the Paracas Peninsula, a new kind of pot-

[1] This paper represents the result of work undertaken in part under the aegis of the Institute of Andean Research, which has made possible the publication of all of Dr. Tello's illustrations.

tery ornamented with the same motifs and worked with the same technique as in the Chavín art, though with the addition of new typical features that linked genetically with the classic Nazca pottery, such as the globular shapes derived from the gourd, tubular necks imitating the bones of birds, and polychrome painting with oil or resinous color.

In 1926 and 1927, while reviewing the works of Max Uhle for the purpose of appraising the foundations for his theory of the origin and development of Peruvian cultures, I was surprised to find that the remains of pottery found by him in the Ancón and Supe rubbish deposits were no other than remains of the classic Chavín pottery. Uhle believed these pottery remains belonged to a primitive culture of cannibal fisherman who, according to him, were settled on the coast prior to the appearance of the people that brought from abroad the advanced proto-Chimú and proto-Nazca cultures.

The Chavín culture, despite these dispersed finds, had not yet achieved a separate existence as a true cultural entity. Its sparse and sporadic components seemed to lack direct or immediate sequence. For this reason, the few known proofs of Chavín art were regarded as coming within the domain of Tiahuanaco culture, or within that of Nazca, but always as expressions of other cultures already identified.

NEPEÑA VALLEY: CERRO BLANCO AND PUNKURÍ

In 1933, I discovered in the Nepeña Valley two splendid examples of Chavín art: the temples of Cerro Blanco and Punkurí. For the first time, I proved that remains of Chavín civilization lay buried under the debris of buildings belonging to cultures hitherto considered to be the oldest and most advanced on the Peruvian coast.

Excavation of these monuments furnished fresh data on the characteristic features of Chavín culture in its adaptation to the physical conditions of the coast, on its two phases or stages of development, and on its great antiquity. The Cerro Blanco temple had been buried under a thick layer of mud, remains of old floods, upon which sugar cane is now being grown. In some areas, the temple was covered by two different types of structure; one that seemed to be merely a new local phase of Chavín proper; and another corresponding to the buildings, graves and rubbish heaps of a people who lived there later. On the lower level, the buildings were of stone; the walls were plastered with mud and decorated with figures in relief, admirably modeled in fine clay and painted in a variety of colors imitating the stone sculptures of Chavín (Pl. XII, *a*). In the fill of buildings destroyed and utilized as foundations of other buildings were found a few fragments of black vessels of the classic Chavín type (Pl. XIV, *a*). On the second level the construction was of

stone and small conical unbaked bricks, the walls plastered, smooth-finished and painted. In the debris that filled the rooms of the buildings erected above this level no fragments of pottery were found. On the upper level were found remains of the dwelling houses, rubbish and graves of a population that lived there and utilized, in their construction, the materials employed by their predecessors. These people belonged to the culture represented by the multicolored vessels of the Santa and Late Nepeña type, being contemporaries of the Chimú.

In the Punkurí temple, conditions were almost wholly repeated. The *huaca* has at one time been buried in great part under a mass of mud that seems to have spread over the entire valley. The lower level con-

a *b*

FIG. 17.—*a*, Stone vase with engraved figures, Huaca Punkurí, Nepeña Valley. *b*, Stone vase with engraved figures, Huaca Suchiman, Santa Valley.

tained stone structures with walls decorated in the classic Chavín style. These buildings were knocked down and used later as foundations for the new buildings of the middle level, and this, in turn, served in similar fashion for those of the upper level. As at Cerro Blanco, in the two lower levels, remains of Chavín culture were found: an idol made of stone and mud, representing in high relief the figure of a feline painted in different colors; a grave containing the body of a sacrificed woman, together with a spiral conch (*Strombus galeatus*), a handerkchief embroidered with turquoise sequins, and a mortar and pestle, both of diorite, polished and engraved with figures in the classic Chavín style (Fig. 17, *a*). In the middle level, the buildings had walls of conical mud bricks and were decorated with incised figures on a previously plastered surface. Above this level were also found remains of dwellings, rubbish and graves of the Late periods of Santa, Nepeña and Chimú (Fig. 17, *b*).

Consequently, we have ample proof in Nepeña that the Chavín culture had spread to the coast and had become adapted to the conditions peculiar to its new medium. In the first stage of such adaptation, it had faithfully preserved the characteristics of the original culture; by the second, it had undergone considerable modification. For instance, the structures of the first stage were exclusively of stone, and were ornamented with figures that accurately reproduced those of the temple at Chavín. In the second stage, the buildings were of conical unbaked bricks, plainly imitating the cuneiform stones used in the previous level, and painted figures copied the incised and relief figures of the original stone art. In the third stage, all features of both phases of the earlier art disappeared completely; the buildings were now of rectangular unbaked bricks, with plastered walls adorned with figures corresponding to an entirely new style. The structures of this period no doubt lasted until the Spanish Conquest.

Exploration of the Nepeña Valley, from Samanco Bay to the limits of the cis-Andine zone, permitted a fairly complete survey of the principal features of the cultures existing there. Among these are the following: (1) Ruins of towns, with burial grounds in the outskirts with more or less uniform contents, some built with rectangular mud bricks made in a mold, others with small stones and mud, all belonging to the last stage of occupation of the valley and situated at intervals along the side-valleys. (2) Pyramids in tiers, associated with other structures with large rectangular rooms built of mud bricks, and decorated, for the greater part, with multicolored frescoes representing war-like or mythological scenes, similar to those on Muchik vessels; also burial grounds in the outskirts with overlying graves and more or less uniform contents, hard to differentiate in respect of their two stages of development, for the later one seems to be simply a continuation of the preceding. The same type of pottery runs through the two stages, retaining its morphological and decorative features with the sole difference of a falling-off in the art quality of the latter stage. (3) Stone structures completely distinct in style from the above, but similar or identical to Andean megalithic constructions, such as those of Kusi Pampa, Pincha Marka, Kiske, Huaca Partida, Paña Marka and the second *huaca* of Cerro Blanco. In the lower part of the valley, these buildings are found buried by others of a later age, and in the upper part they are uncovered and of such pure style that they continue without any apparent differentiation up to the Callejón de Huaylas. In the structures of this archaic style situated in the lower valley, the characteristic style of Chavín architecture stands out clearly. These *huacas* have platforms at different heights, communication between platforms being

[TELLO] PLATE XIII
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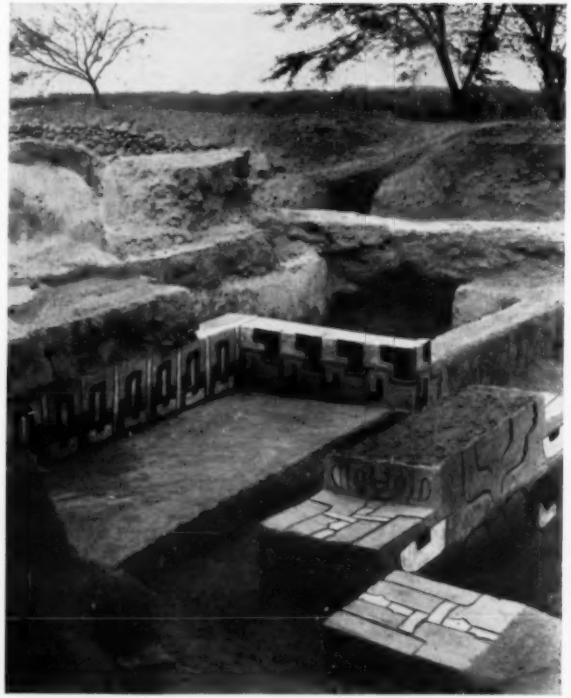
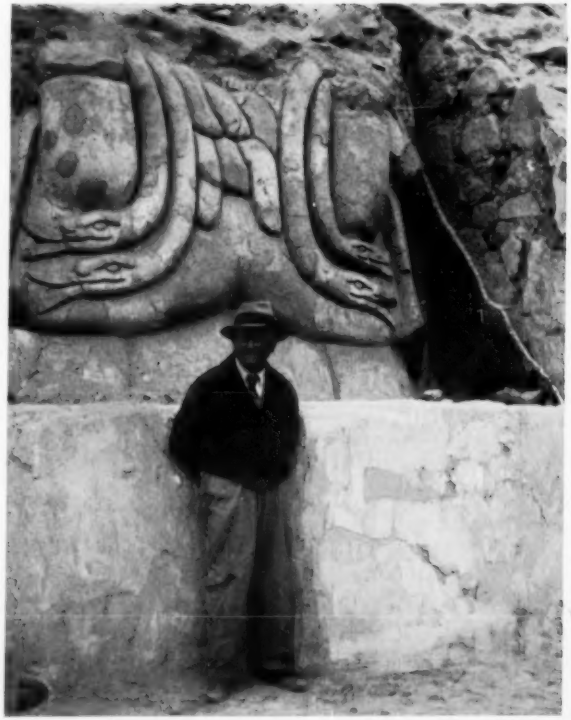


a



b

a, Cerro Blanco temple, Nepeña Valley. The inverted L's and the frames on the upright elements on the back wall are brick red; frames on the lower elements are greenish yellow. *b*, Moxeke, Casma Valley. Lower portion of idol made of stones, conical adobes and mud, faced with clay and decorated with white, yellow, black and red pigment, and placed in one of niches running length of outer terrace.

a

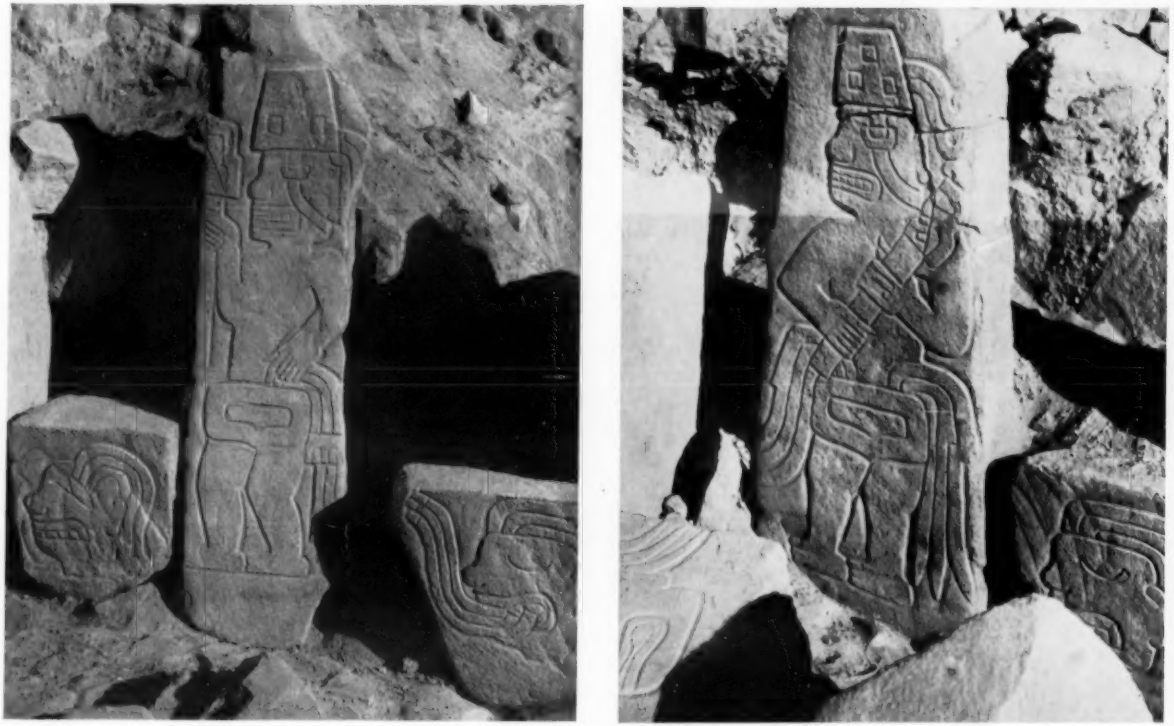
b

a, Cerro Blanco temple, Nepeña Valley. Fragments of monochrome incised pottery. Red pigment or traces of graphite in some incisions.
b, Chavín de Huantar. Potsherds from subsoil.

b, Chavín de Huantar. Potsherds from subsoil.

a *b*

a, Pallka, Yautan District, Casma Valley. Potsherds from rubbish heap in subsoil, beneath ruins.
b, Pallka. Potsherds from ash heaps in ruins. Decorations done with sharp instrument.



Cerro Sechín temple. Engraved monoliths.

by shafts, and remains of altars, columns and walls profusely decorated with figures modeled or painted in mud in the style of those carved in stone at Chavín de Huantar. In these *huacas*, use is made of conical mud bricks of different sizes, from 20 to 80 cm. high, for the building up of the walls and the filling in of the platforms.

Before discovery of the Chavín culture in the Nepeña Valley, it might have been thought, judging by the few isolated finds of potsherds, that the old trans-Andine populations had filtered in, in a casual manner, by the lowlands of the coast or the montaña, in the fashion of temporary or migratory colonies. The Nepeña discovery definitely cleared up the true character of the Chavín culture on the coast. In the first place, it was now proved that this culture was rich in representative material, that it was unmistakable in its distinctive features, and identical to the trans-Andine culture in its essential characteristics. In the second place, it was demonstrated that its remains occupy a lower stratum than the cultures regarded by other investigators as the first and oldest in Peru. The Chavín people developed on virgin soil in the Nepeña Valley a civilization without precedent in respect to both originality and excellence of artistic production. The same architectural style, employment of the same kind of decorative and symbolic motifs, and particular methods of utilizing local materials, adapting them to pre-established standards, give the Chavín culture features of its own.

In possession of material that permitted us to differentiate the above culture, we then found it necessary to direct investigation toward broadening our knowledge of its characteristics and inquiring about its original sources of diffusion. These considerations, in the first place, made it necessary to explore Casma Valley, on account of its special geographical situation, and, in the second place, made equally essential the intensive exploration of the watersheds of the Cordillera Negra and the Callejón de Huaylas; for, in both regions, the remains of Chavín culture must lie beneath the strata corresponding to the cultures that had so far appeared there to be the predominant and oldest ones.

CASMA VALLEY: THE CERRO SECHÍN TEMPLE

In the second half of 1937, I was commissioned by San Marcos University in Lima to undertake an archaeological survey of northern Peru and to study by preference the remains of the oldest civilizations found throughout that territory, between the coast and the Amazon frontier. The expedition equipped for the purpose was made possible by help lent by the Institute of Andean Research in the United States and by Mr. Nelson A. Rockefeller.

Throughout the trip I was accompanied by Messrs. Toribio Mejía

Cerro Sechín temple. Engraved monoliths.

X., Pedro Rojas, and Hernan Ponce, employees of the San Marcos University Museum, and by Miss Honour McCreery and Miss Barbara Loomis of the University of New Mexico, and for three months by Mr. Donald Collier of the Institute of Andean Research. Also for two weeks the expedition was joined by the Messrs. Edward McCormick Blair and Deering Danielson.

Among the more important sites surveyed by this expedition were the ruins of Sechín, Moxeke (Pl. XIII, *b*) and Pallka (Pl. XV, XXIV, *a*), situated in the Casma Valley and identified as belonging to the Chavín culture; the megalithic aqueduct of Kembe Mayo, near Cajamarca; the Yanakancha megalithic mausoleums near Hualgayoc; the Cochabamba megalithic ruins in the Province of Chachapoyas; the Chokta ruins in the Province of Celendín; and the Nunamarka ruins close to Chilia in Pataz Province. Except for Casma Valley, these are all within the Marañon basin.

The final report of the explorations carried out by the Marañon Archaeological Expedition, which is still in preparation, will contain the evidence to prove the wide zone of diffusion of the Chavín culture in the Sierra and coast of Peru. For the time being I will confine myself to recording the discovery of the Sechín, Moxeke and Pallka temples in Casma Valley, some of which, like that of Sechín, are adorned with sculptured monoliths in the Chavín style.

On my first visit in 1937 to the Cerro Sechín huaca, lying at the foot of the northern slope of the rock called "Los Corrales" or "Cerro Sechín," some seven kilometers to the east of the town of Casma, my attention was called to five stone posts on the edge of the side valley in which the *huaca* stands, standing in an almost straight line, barely emerging above the surface. Three were close together toward the east; and two, separated from each other, toward the west. Inspection of the surroundings of the *huaca* disclosed the existence of other stones, lying half buried in the fields, and displaying carved figures on one face.

The posts turned out to correspond to other and larger units buried under a thick bed of loose earth; all showed, on one face, carved figures that were in turn part of other larger figures lost in the depths.

In order to gain more concrete information about the presence of these stones in such an unfrequented spot, I directed preliminary work toward digging out all stones in the loose soil.

My first impression was that these stones had been hauled from some other older building, from the Sechín Alto Temple, for instance, being brought here by another people for reuse or a new type of use. I was soon convinced, by the discovery of additional stone posts, that they followed a continuous line, with short empty intervening spaces.

I then thought that they perhaps formed part of a monument resembling the square precinct of Kalazazaya at Tiahuanaco. This forced me to deepen the excavation on the north side of the row, in order to reach the level on which they stood, For this I divided the ground of operations into four-meter sections, in order to examine carefully the details of position, shape, size and ornamentation of the stones, and at the same time secure data about the terrain in which they were interred. While carefully removing, on one side, the layer of loose earth on the top level, which contained no archaeological remains at all, I had a vertical trench cut around the stone at the western end, following its sides very closely. I chose this spot because, behind this stone, there was a big depression in the ground about two meters deep and from three to four acrosss. The earth and stones covering the mynolith in front and behind were easily removed, and its base was reached. It was lightly propped against a pile of stones placed in front like wedges; and it contained a figure cut in plane relief, a half-human, half-feline monster, to judge from its features (Pl. XVI). Because of its bristling disheveled locks, no doubt, the inhabitants call this the "Huaca of the Fierce Idol."

Excavation was easy behind the monolith. The stones piled there, and the loose soil, were taken out for a depth of two meters, down to the base. At the front face, and the left and right sides, the job was harder. In front, the stone rested on mud hardened to the consistency of concrete, with a few stones imbedded in it. At the sides, the base was likewise wedged by a number of small stones driven between the monolith and the adjacent large stones. To lighten the task and secure complete isolation of the monolith, we proceeded to straighten it and incline it slightly backward. Only then could we separate the pile of stones against which it lay; this pile, in turn, hid another, small monolith. Extending the excavation from east to west, we found on either side of the monolith of the Fierce Idol, three more monoliths of the same shape and size as the small one. All four displayed human heads cut on one face.

Though two small monoliths were found at the very bottom of the excavation standing upright and in line with the larger one, no important fact was observed explaining the curious position of these stones. However, one of the smaller ones had left a clean-cut impression of its carved face in the mud on which it had fallen. This revealed that the monoliths at this site had been thrown forward, turned over, and dragged for a distance by a mass of mud originating in and traveling from the upper part of the side valley. For the rest, the ground consisted of a conglomerate of small stones cemented by a very hard, dark-brown clay.

Work was proceeding simultaneously in other sections, for the sole purpose of removing the surface layer and locating the existing mono-

liths. Some others were uncovered, it being noted that they preserved a uniform, marked forward inclination. Digging was continued down to the level corresponding to the platform on which the wall of monoliths had stood. Towards the east, excavation was a laborious job, on account of the great amount of loose earth piled up there. To get at the base of the stones, it became necessary to move this earth in considerable volume, increasing in proportion as the digging advanced towards the west. Furthermore, a short way down, a multitude of stones appeared, almost completely covering the monoliths. Just as at the opposite end, the major and minor monoliths kept the same relative position, the first leaning or lying in a forward direction, the second intercalated between them. Among the latter, those at the lowest depth were standing upright or leaning forward slightly, and those that had without doubt been on top of these were found one, two or three meters ahead; minor monoliths underneath major monoliths, as if an earthquake had shaken the monument with such force that the wedges at the sides and below each monolith had been displaced, allowing it to fall. The solidity of construction on this side must have been much greater than on the other, for here there are still to be found remains of the primitive well-made wall. Though all the upper stones are out of position, the lower ones seem to be firmly set, especially in the section corresponding to the intervals separating the major monoliths. Moreover, the destructive force must have acted with greater intensity in the upper portion than in the lower, for only so can the falling or leaning forward of the majority of the major monoliths be explained.

On the western side, more so than on the eastern, the digging provided very illuminating data as to the formation of the exposed ground. At a certain depth, after getting rid of the layer of loose earth mixed with gravel and sand, a thin bed of rubbish was found running obliquely in front of the wall. Within this bed appeared fragments of multicolored pottery and skeletons of human beings and dogs. This bed thickened and assumed a frankly horizontal position as the trench advanced above and behind the row of monoliths. As soon as it was noted that the ground in this spot retained its stratified character, we tried as far as possible to avoid any falling-in of the upper layer and to deepen the trench in front. By this means it was possible to carry on excavation for twenty-three meters, from a hollow that apparently marked the eastern limit of the wall, to the stone that stood out upon the highest part of the loose earth.

In the course of excavation, it was observed that the monoliths discovered on one side seemed to be twins of those on the other, so that the building may have had two symmetrical sides, left and right, with perhaps an entrance in the center marked by the tallest stone. This induced

me to continue the work on the left or eastern side, and determine definitely the course of the wall. Excavation on this side proved as interesting and full of surprises as on the other. To get fuller information on the structure of the ground and the exact placing of the carved stones, I had the field of operations enlarged both areally and in depth. Not to lose any important detail, we at first removed only the loose surface earth; then we continued examining the ground as it was cut into along the trench opened from east to west.

The loose surface earth having been removed, there came into view, just as on the other side, the compact mass of stones and mud, and, in this, the carved stones. It was a hard job to remove this conglomerate in order to uncover the monoliths. Here, better than on the right hand side, the stones that fell in the mud left the impression of their designs; and here also the evidence revealed by the excavation was far more illustrative and attractive, since it was possible to contemplate the ravages and magnitude of the earthquake.

The major and minor monoliths were found one after the other, the former lying down or leaning heavily forward, the latter thrown two or three meters away from the wall. Some of the major ones were fractured in the upper third, and some of the minor were found under these. The falling flat of the bigger ones permitted examination of the ground on which they had been set up. The stones, strictly speaking, had had no foundations; they were placed directly on the hard stony floor with a few wedges at the sides. One of the monoliths had been placed on a heap of water-borne stones.

We next proceeded to excavate the central section, in order to join up the side trenches. This task was somewhat difficult, owing to the accumulation of loose earth that at this spot reached a greater volume, and to the need of extending the digging over a greater area in order to avoid slides. Five meters down, a large stone was uncovered, the twin of the one on the other side. It was lying face down and was completely covered by a thick layer of stones and mud. This monolith has its top worn away, as if it had been exposed for a long time, and is broken in two at one-third of its height, as if in falling heavily it had hit against a projecting stone that acted upon it like a wedge. Toward the east of this long stone were found two minor monoliths, as if violently displaced from the wall. The space between the two large stones measures 9.7 meters, and excavation here down to the level of the base or foundation of the wall showed that the two tall monoliths had been stuck into the mass of stones and hardened mud to a depth of two meters. Above this mass was found a row of stones, almost all of the same size, covered by a thick bed of rubbish. This is the same bed that appears in the trench

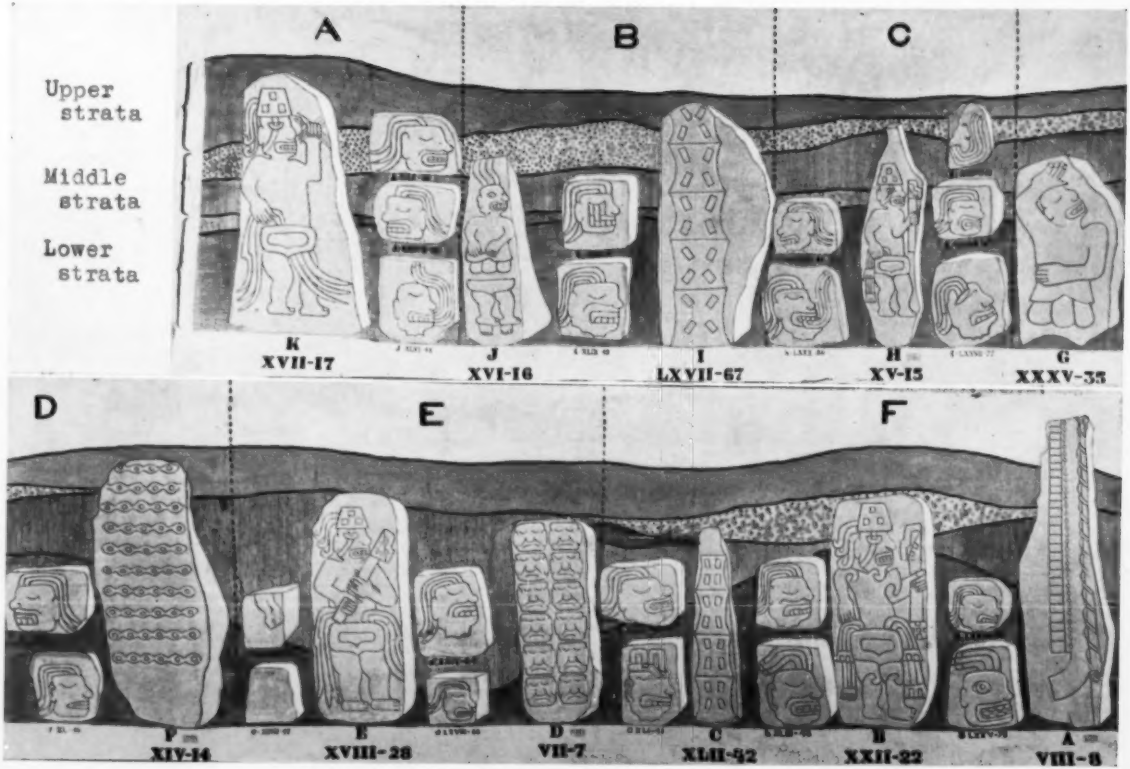
on the eastern side and continues along the western trench. The composition of this bed of rubbish is not uniform; in the lower half it is much mixed with earth and sand, and in the upper half it contains fragments of household pottery and many organic remains. Over this stratum is the loose earth of the lower level.

Observations made during the course of excavation, and the type of archaeological material obtained, furnish information regarding the sites occupied by the buildings adorned with engraved monoliths, the structure of the adjacent terrain and the agency that disturbed the monuments, breaking up some and burying others, and thereby compelling the erection of fresh buildings upon the remains of the earlier ones.

The attached diagram (Pl. XVII) illustrates the outcome of our observations in respect of the excavations carried out in the eastern half of the temple façade. In it are marked by letters the sections into which the terrain was divided in order to facilitate a methodical plan of excavation. The major and minor monoliths have below them letters and Roman numerals for their better identification, and behind the row of monoliths are seen the layers or strata corresponding to the three stages or periods of occupation of this important construction.

The strata present an undulating surface, with easy rises and low depressions, at times of a considerable width. It is evident that the continuity of these strata, along the line of the façade, was broken by subsequent excavations, and mainly by streams of water or mud descending from the slopes of the neighboring hill.

Three main strata or levels are clearly distinguishable; the lower, the middle, and the upper. The first is formed by a mass of dried mud of a compact nature, in which are imbedded large quantities of cobbles and medium-sized stones with sharp edges, doubtless carried along by the mud. This mass of hardened clay forms one of the many strata of valley fill resulting from floodings by the river that even to-day wanders across the countryside without any definite bed. On the surface of this layer, or set inside it, is the row of engraved monoliths. A layer of rubbish, of varying thickness and broken up into different patches, occupies the depressions of this level. In it are found potsherds of the sub-Chavín type, kitchen-midden remains, and other material, in every way resembling that discovered in the Teatino cemetery, in the Supe burial ground near the Faro, where Uhle labored years ago, in various Nepeña and Santa cemeteries, and in the lowest layer of a cutting made by the La Leche River close to the Batan Grande Huaca(Lambayeque). This rubbish, judging from the pottery, belongs to the Chavín culture in its second period, called by the writer sub-Chavín, to which also belong the vessels found by Bennett in the Gallinazo cemetery, in Viru.



Cerro Sechín. Eastern half of temple façade.

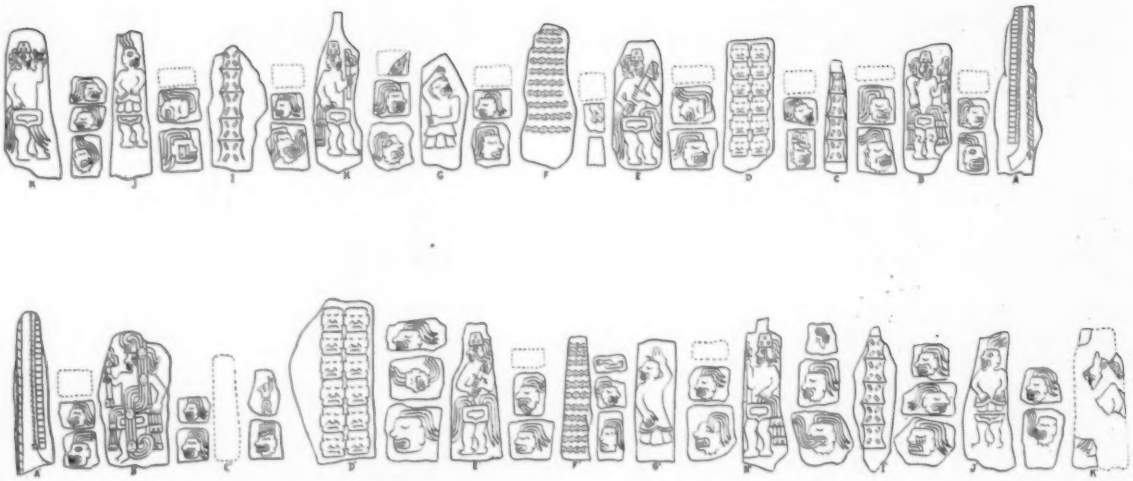


FIG. 18.—Arrangement of the monoliths decorating the principal façade of the temple of Cerro Sechín. The upper row represents those on the eastern half of the front, the lower, those on the western half.

The middle level is formed by another thick layer of hardened mud containing bits of conical adobes, stones and even lumps of plastered walls painted with polychrome figures. It has a very unequal depth. Near the center its depth reaches to as much as two metres and, at a distance from the center, to only twenty cm. The direction of this mass, the remains of old inundations, is distinct from and opposite to that of the previous inundation. In the latter, it runs from the river towards the foot of the hill, and in the former from the foot of the hill to the river. In all probability, torrential rains running down the hillside flooded the built upon area, brought down the buildings and, aided by the impermeability of the granite rock of the subsoil, swept towards the valley bottom, overturning and dragging the monoliths from their foundations, at times, for a distance of two and three meters. The mud covering these monoliths, the impression left in the mud by each one at falling, the disorderly, inclined position and signs of dragging in nearly every case, lead to the conviction that in an extremely remote period the building decorated with the monoliths was buried by an avalanche of alluvial matter. As in the case of the lower level, on the surface of this middle level we come across an abundance of rubbish and several graves containing pottery of the Santa or Huaylas-Yunga type. This differs from the sub-Chavín type, though retaining certain features of resemblance, and differs still more from the classic Chavín type.

The upper level has a different make-up from that of the former. The ground is relatively loose earth, sand, gravel and cobble-stones. Upon it are found remains of terraces and other roughly-made stone structures and rectangular adobes, burials with pottery of the sub-Chimú, sub-Santa and Inca type, and a new kind of incised pottery known from surface rubbish-heaps in almost the whole Casma Valley.

Having satisfactorily proved the straight course of the monoliths from one end of the row to the other, or between the hollows that apparently served as side boundaries to a platform, I proceeded to explore the terrain immediately behind the central portion of the wall and its eastern and western ends. For this purpose I made several soundings on the presumed platform, with the following results:

1. The main wall, fifty-two meters long, turns back at both ends, forming a curve at the corners. It maintains the same level for the whole distance, penetrating below the thick beds of rubbish and the buildings subsequently raised over them.

2. Though the side walls are well preserved, it can be asserted that they are made of reused material, carved stones to which the builders attached no significance, utilizing them merely as building material, or perhaps as ornamentation. The major and minor monoliths were carelessly placed, and at different levels in the structure of the wall. Some of

the human heads were reversed and, in one instance, instead of a major monolith, a large plain stone had been set up.

3. On the eastern side, it was found that a thick wall of stones and mud had been built perpendicularly against the side wall of carved stones. This wall is nothing but the support of a terrace added to the main platform sustained by the wall of monoliths. The two structures must be of the same age.

4. Test excavations on both flanks of the platform showed, finally, that the wall of carved stones is underneath a thick layer of stones and hardened mud, on which were raised the terraces that, in turn, served as a floor to the numerous dwellings of the population that established itself in this place long after the builders of the wall had disappeared.

In the Cerro Sechín huaca ninety-six monoliths were discovered altogether; eighty-nine, alongside the wall or at a short distance in front of it, and seven, thirty or forty meters to the northwest, scattered, turned over and half-buried (Fig. 18). There are two types of monolith: one, long and tall, prismatic like an obelisk, or in the shape of a tablet or flagstone, like a stela, the other, irregularly cubical. The first is here called a major monolith, and the second a minor.

The stones apparently come from the quarries adjoining the huaca. The whole of Cerro Sechín is of granite formation. At the foot and on the slopes are heaps of stones broken away from the ledge, in the shape of thick slabs or large prismatic blocks. This material has been used by the ancients in their building and sculptures.

As a rule, on each minor monolith there is found a fracture face corresponding to the breaking-away of the large block subsequently split to the required size. Major and minor monoliths were chosen in accordance with what they were to represent. On the faces and edges, no trace of preliminary working or of adaptation to a predetermined shape is found. There is no dressing or polishing of the stone. Even on the flat side where the carving comes there are no signs of previous smoothing of the surface. Some stones exhibit uneven sides, due to flaking or fracture; yet the figure appears carved on them, regardless of flaws that could easily have been eliminated. The major monoliths have a height of 180–440 cm., the minor ones, 60–120 cm.

The major monoliths were found face down or leaning forward. Four of the shortest of these were found in an almost vertical position, one to the east and three to the west. The minor monoliths were in some cases in their original position in the wall, standing upright or inclined slightly forward, in other cases a meter or a meter and a half away, as if they had been thrown from the top of the wall prior to the fall of the major monoliths.

THE SCULPTURE OF THE CERRO SECHÍN MONOLITHS

The monoliths show signs of a lengthy exposure. Old breaks in the surface of the principal face have, as a general rule, destroyed the continuity of the figure represented on it; much, and in some instances, widespread, erosion and scaling have eliminated the angles or worn them down. Such erosion also appears, in some examples, on the surface of the principal face, at intervals, as if the stone, after being carved, had been dragged over other stones. Among the fractured stones it is seen that, in some, the fracture took place before the falling of the stone, for, at the top, the carved figure is incomplete through the breaking-away of one or two bits. In others, the fracture is the result of the stone falling and knocking against other stones. In this case a comminuted fracture appears at the top end, through the stone having split into pieces. In one instance, the carved stone in falling collided with another of the same kind. The principal face of almost every stone exhibits a layer of yellow patina, which spreads uniformly over the raised parts, the hollows, the grooves and the deep cuts.

The technique employed in presentation of the carved figures is uniform throughout (Pl. XVI). No fundamental differences are to be found. All seem to be the work of one artist, or of artists trained to standards of the same school. The grooves, hollows and flat surfaces show no traces of a cutting tool. The grooves are few. The broad hollowed-out parts have been produced by an abrasion tool wearing away the surface to the required depth; the bottom and sides of these hollows reveal the delicate work of friction by a tool that wears away the stone gently and slowly. It is possible that this work was done with the help of water or some other substance giving cohesion to the abrasive sand inside the cut and facilitating handling of the tools.

No difference is noted, either, in the removal of the background of the figures. The same instrument scrapes and smooths the edges of the hollows. Work is not carried very far on the background, and this is what produces its rounded or curved aspect, similar to that of the cushion-shaped stones with rubbed-away angles found in the seats in the Cuzco ruins.

The operation of slow abrasion of the stone must have been preceded by the incised drawing of the outline of the figure. This is pertinently illustrated in the carving of one of the big monoliths in the central portion of the wall. This stone was selected because one of its faces afforded an almost black polished surface due to a layer of mica, perhaps a leaf from a fault, upon which the figure was drawn by incision, without reduction of the background, as if the job had been left unfinished.

To facilitate study of the monoliths that adorn the wall, a capital

letter was assigned to each, starting, in each half, from the column marking the entrance, which is also the tallest.

The right and left hand, or eastern and western halves, consist of ten major monoliths and ten groups of minor monoliths placed above and intercalated between the major ones. These minor stones have been assigned small letters.

The figures represented on the monoliths, with the exception of the two tallest in the center, are of the same nature. They all show the human body, fully or partially, with certain feline features, and can be classified under three types: (1) full-length human figures, naked or provided with a simple headdress, a belt and a tool or ceremonial branch; (2) human figures cut off at the waist; (3) bits of human anatomy—heads, eyes, vertebrae, hands and feet.

Desiring a close acquaintance with the archaeological site discovered at the foot of the north side of Cerro Sechín, I did some exploratory work within the area of cultivated land comprised between the building discovered and the Sechín River. This reconnaissance led to proof of the existence of a wide depression that must have been a water reservoir, a little less than twenty-five meters to the north of the temple. On the banks of this reservoir were found remains of stone walls, buried under deep layers of rubbish, and many fragments of monoliths with engraved figures. The rubbish occupies an extensive area within the cultivated fields, and in certain spots forms low hillocks or platforms partly destroyed by floods. Everything causes one to think that a building of engraved stones, similar to that of Cerro Sechín, stood on the level ground between the river and the foot of the hill almost on the edge of the above

FIG. 19.—Sections through the Cerro Sechín Valley to show:—

I. The structures of the first period of Chavín culture.
II. Subsequent burial and destruction of these buildings, by alluviation and deposit of D.
III. Structures of second period of Chavín culture built on alluvial deposits.
IV. Destruction of these structures resulted from landslide, E, loosened from mountainside by torrential rains.
V. Third period structures were built on layer E.
VI. The present time: Modern cotton fields appear on valley floor, while treasure hunters have sunk pits into remains of buildings.

A. Granite rock.
B. Scree formed of debris from weathering of granite rock; gravel, hardened earth and angular cobble-stones.
C. Alluvial deposit forming part of filling of valley.
D. Ground made by old river-floods.
E. Landslide from slopes of Cerro Sechín.
F. Cultivated ground with rubbish.
X. Remains of old buildings of Chavín type.
Y. Remains of old dwellings.

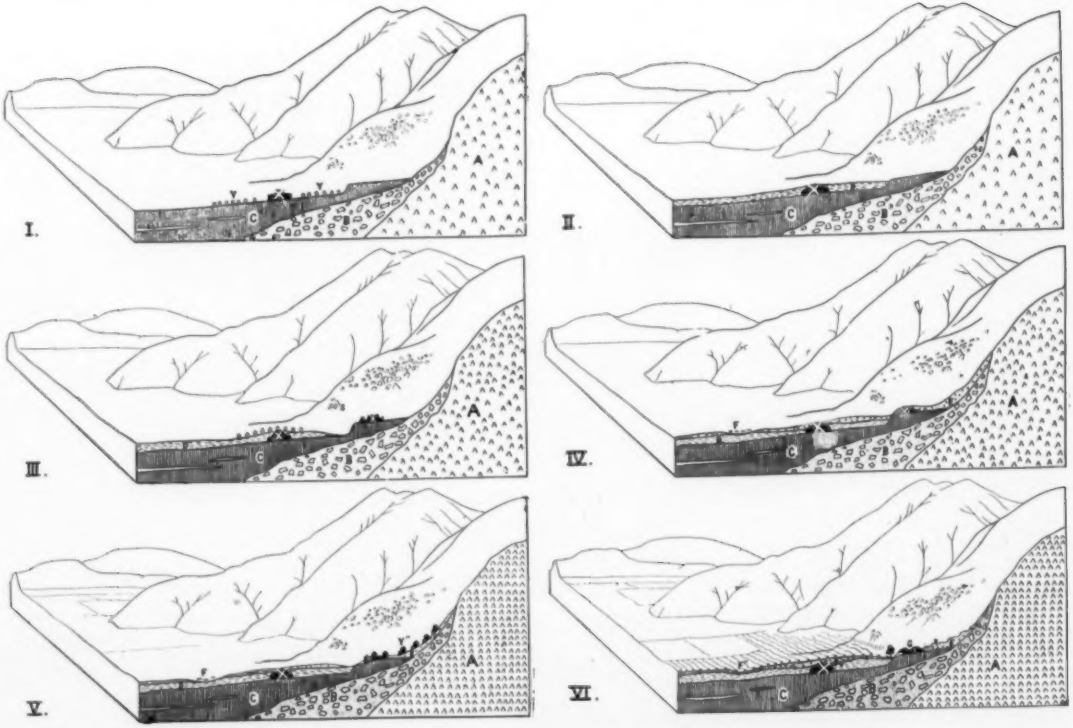
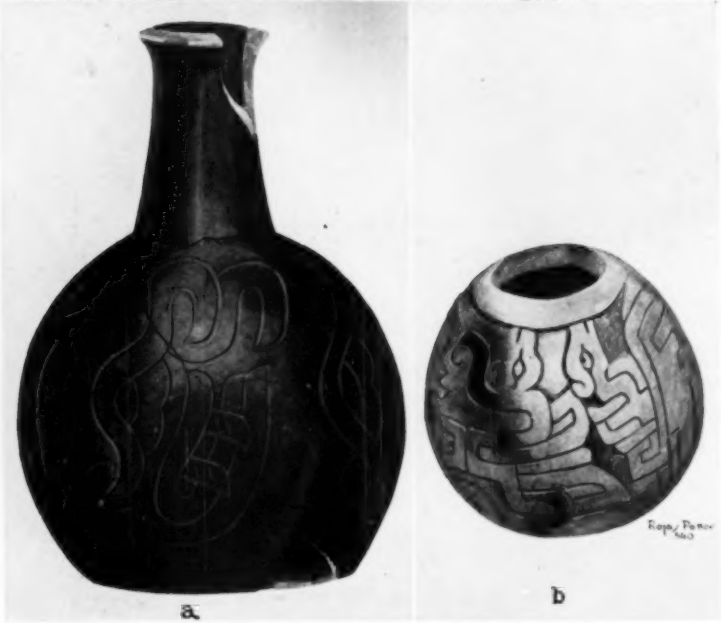
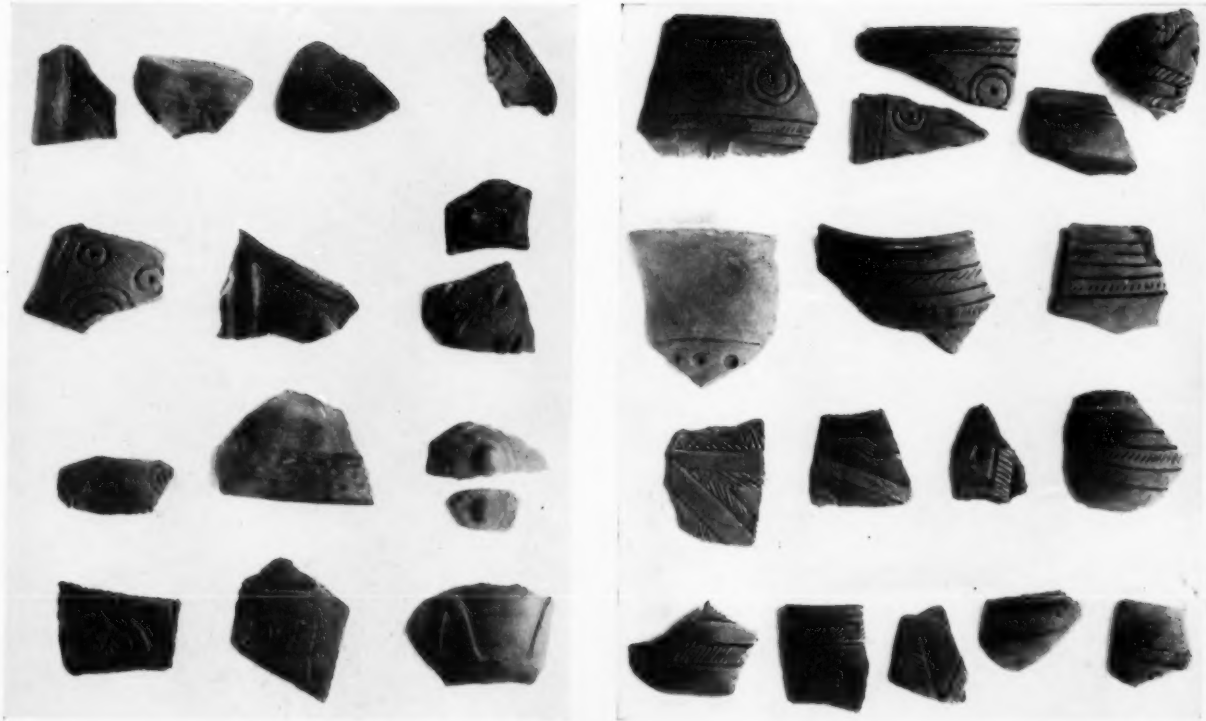


FIG. 19. Sections through Cerro Sechín Valley. See legend at bottom of page 148.



Upper: Cut across east face of Chavín de Huantar made by Mariash River.

Lower: a, vessel found in lower layers of cut shown above; *b,* small stone pot from grave, Lives Farm, San Gregorio district, Province of Hualgayoc. Found by Sr. German Luna Iglesias.



a *b*

Kotosh, near Huánuco, Huallaga Valley: *a*, pottery from rubbish layer; *b*, potsherds from rubbish layer, red pigment in incisions. This pottery was found intermingled with classic Chavín pottery in same deposit.

Part of main front of Chavín de Huantar temple after 1940 excavations.

reservoir. This building must have been flooded, swept away and buried, in one of the many spates of the river.

Figure 19, I, shows the first monument, X, erected facing Cerro Sechín. Around this there must have existed many dwelling-houses, Y, and perhaps other larger buildings.

An inundation of this side of the valley must have taken place subsequently (Fig. 19, II). The mud, laden with stones, swept forward and filled up the main hollow at the foot of the hill, and the ground resulting from this inundation, D, buried the primitive building X.

Later on, another building, X′ (fig. 19, III), was erected on a higher level and closer to the hill, using for the purpose the materials, chiefly dressed stones, that at the beginning formed part of the building X. In this second building stage, a new material was employed in the form of the conical adobe, and the technique of plastering and painting the walls of the chambers built within the enclosure of graved stones. A long period must have elapsed between the erection of one building and the other, because in the vicinity of X appear remains of pottery of the classic Chavín type, and in that of X′ sub-Chavín type sherds. This classic Chavín type, probably imported from the Sierra, becomes considerably modified to form the second type.

A further inundation, or rather slide of a great mass of earth and gravel from the hillside, took place later. This mass E (Fig. 19, IV) buried and destroyed the second building X′, filling up its different compartments and the passages and courtyards protected by the enclosure of monoliths. It came down with such force that it moved the great monoliths out of their vertical position, inclining them forwards and in certain instances dragging them three meters beyond the line of the enclosure. In this second layer of alluvial earth are remains of the sub-Chavín culture, fragments of conical adobes, pieces broken from the painted walls, and potsherds, all imbedded in the compact mass of mud. Remains of this inundation appear outside the wide depression of ground, F, that to this day is marshy land and in other times, as has been said, must have been a reservoir.

On the layer thus formed various terraces that served as platforms, Y″ (Fig. 19, V), for dwelling houses later were built. The ruins of the latter are today buried under great accumulations of rubbish covering graves containing ceramics of the classic Santa or Huaylas-Yunga type. The torrential rains that fell on the coast of northern Peru in 1925 gave rise to streams on the hillsides that cut through the layers of rubbish, washing them for a considerable distance to the river bed. And the huaca and treasure hunters have utilized these cuttings in order to exploit the graves in the subsoil. To this last inundation is also due the

cropping of some stones of the enclosure, that served us as a guide in carrying out excavations in that place. Figure 19, VI illustrates the general disposition of the different strata that constitute this archaeological site, and has been drawn in the light of the knowledge obtained by means of multiple exploratory excavations.

TYPES OF CHAVÍN STRUCTURES ON THE COAST

Little is known of the minor structures. Chavín potsherds appear in certain ash heaps that are the only evidence of human habitation. Possibly dwellings or huts of perishable material, with small stones and mud, formerly stood over or near to the area occupied today by the ash heaps. In some cases, heaps of rectangular or circular stones, or small terraces, seem to point to the remains of dwellings that might be assigned to the Chavín culture, since pottery remains of this type are exposed on the surface. But the most interesting point is that beneath these remains of buildings and dwellings, and hidden, as a rule, by the rubbish and accumulations of stones, are found graves of the Chavín type. Consequently, the custom widely generalized on the Peruvian coast, of burying the dead near the towns or even inside them, must be of great antiquity.

With respect to the major buildings, there is found to be a more or less uniform type, easily recognized throughout the Peruvian coast. A wall or rectangular fence, serving as a defense or protection to a main building that almost invariably occupies the center, and to other small structures alongside this, is associated with graves. The main structure, of stone or sun-dried brick, is formed of two or more terraces or small platforms, rising one above the other, there being on the top terrace a building almost always made of conical sun-dried bricks. It is not yet possible to determine the structural style of this main building, as it is completely demolished, as a result of having been, for the greater part, cut into and despoiled by treasure hunters. It is only just possible to identify the platforms, the stonework of the revetment or supports of these platforms that form fairly high and level parapets, and the heaps of mud bricks constituting the remains of the temple proper. Likewise, little is known of the minor structures, beyond the scanty debris strewn inside the fenced area. On the coast, the wall is of stone and mud.

This type of major structure, involving a rectangular fence and smaller buildings among which stands a larger one that is, properly speaking, the temple, is characteristic. Its plan was so deeply ingrained in the mind of the ancient builders that in some instances, where the terrain was too broken to allow of the building of the fence, this, in keeping with the preestablished plan, was even built on the side of the hill.

After the fact of the diffusion of Chavín culture on the coast was confirmed by the above finds, an important problem still awaited solution. The distribution of the classic Chavín-type pottery found on the coast was not well defined. Since, from time to time, isolated and sporadic specimens were found, it was thought that they might belong to colonies of people from the other side of the Andes that had occasionally settled on the coast, bringing their products from the interior. Beyond the Cordillera Negra, however, this kind of pottery was nowhere to be found. Was the Chavín pottery on the coast perhaps older than that in the highlands? Was the Chavín stone culture perhaps of less age than the conical mud-brick culture of the coast? Here are a few facts that partly help to clear up these doubts.

SUBSOIL POTTERY AT CHAVÍN DE HUANTAR

In 1919, I recognized in the cultivated fields under which the great Chavín de Huantar temple is buried, and in the earth removed in order to uncover the steps of the main wing, a large quantity of black, brown, white, and red potsherds very similar to the household pottery appearing on the surface of the ruins in the Callejón de Huaylas. I failed to find one single specimen of Chavín pottery, either there or in the widespread rubbish heaps stretching toward the northern side of the Chavín ruins and close to the Wacheska River. In August, 1934, I made a second visit to Chavín. The torrential rains, that had fallen periodically in the years subsequent to 1919, had changed the bed of the River Mariash, on whose left bank Chavín stands. The fierce current of this river, after reaching the ruins, had destroyed and swept away a large portion of the main wings. In after years it continued undermining the temple and deepening its course below the level foundations of the building. A third of the monument, intact in former years, had thus been destroyed; the debris had been swept away by the river, and the foundations badly undermined. While contemplating the damage done, I received a pleasant surprise. In the lowest beds of the river bank I discovered a thick vein of rubbish containing a multitude of fragments of human and llama bones, and an abundance of sherds of the pottery so often sought in the Andean zone and only found as stray specimens on the seaboard. I took out of this vein of rubbish, and from other lower levels in the subsoil of the megalithic structures, a rich and instructive collection of classic Chavín pottery; black pottery, well-polished and with a gloss like chinaware; chocolate-brownish pottery, and bright-red pottery with incised and carved decorations like those found in the best stone carvings of this marvellous Chavín art (Pl. XIV, *b*, Pl. XVIII, *a*). All this material lay buried under thick beds of gravel and mud washed down from the neighboring hillside.

This find contributed to a better knowledge of the characteristic features of Chavín culture, and to greater familiarity with the technical, morphological, ornamental and representative aspects of its ceramics. It also permitted us to appraise certain data related to its high grade of workmanship and extreme age. The pottery is found beneath the alluvial level on which the megalithic structures of the temple were erected, which leads one to think that there is here also an overlapping of buildings belonging to other periods, and that the structures on the lower level had been erected by people who were at once sculptors and potters, whose ruins were later buried under the layers of alluvium and new buildings raised upon them.

MOCÁN AND KOTOSH

Fresh finds have, to a certain extent, helped to widen the horizon of this culture. While I was exploring Chavín, Toribio Mejía Xesspe was uncovering a small "paskana" or stopping place close to the old road running up to the Contumazá highlands, at the foot of Cerro Colorado, fifteen kilometers north of the Mocán estate, in the Chicama Valley. At this halting place, he found sprinkled on the surface a quantity of Chavín potsherds mixed with others of the Chimú household type. This pottery, though less rich in ornamentation than the classic, is uniformly black and grayish like the former, and its style is markedly Chavín.

Among the potsherds taken out of the subsoil of the Chavín de Huantar temple were some resembling the incised and carved types of the Amazon country, which Nordenskiöld considers to be the oldest there. This fact, added to the reports of the Franciscan missionaries of the existence of black, fine, carved pottery in the outskirts of San Luís de Shuaro, in the Perené basin, induced me to make an archaeological inspection trip in 1935 to the headwaters of the Marañon, Huallaga, and Ucayali rivers. In the surroundings of Huánuco, I found several artificial hillocks on whose surface appeared a few Chavín potsherds. In one of these, called the huaca Kotosh, dug into in past years down to its base by treasure hunters, I found in the upper beds of the cutting an abundance of Chavín potsherds mixed with other types closely resembling, on one hand, incised and painted pottery of the Paracas caves, and, on the other, incised and carved Amazonian pottery (Pl. XIX).

PUKARÁ

In October, 1935, I spent a few days in Pukará, a village in the Province of Lampa on the right bank of the headwaters of the river of the same name, a small tributary of Lake Titicaca. This place is an old pottery-making center, famed for the antique stone sculptures, statues and reliefs existing in the vicinity.

The modern village of Pukará stands on a wide alluvial terrace that partly covers another town of greater area, the remains of which are evidenced by hillocks and rows of stones, disposed in circles and rectangles scattered over the plain. Some of these stones are dressed, polished and carved with figures in great part analogous to those appearing on the Chavín monoliths. The natives of Pukará now make earthen vessels; in their huts are found in actual use the implements and material of this craft. The earth used in preparing the mud and unbaked bricks of which they build their houses, and the soil cultivated for their crops, contain a large assortment of pottery of the classic Inca type. The plough turns up pottery mingled with earth and gravel. Strolling through the narrow village streets one observes that the walls and fences are plastered with beautiful multicolored fragments of Incaic ceramics, exposed and cleansed by the rains. If one attempted to fix the age and culture of the Pukará monuments by relying solely on the type of pottery appearing on the surface or in the subsoil as turned over by the plough, one would say that they belong to the time of the Incas. But, what appears on the surface is completely different from that lying at a greater depth.

The river, in its incessant task of seeking a bed, has gone first meandering over the plain, and subsequently deepening its bed. In the course of erosion and transportation of the sedimentary formations produced by nature and man, the river at times lays bare material hidden in their depths. The geographical situation of Pukará somewhat resembles that of Chavín; both are overlaid by thick beds of clay and fine gravel brought down from the sides of the nearby hills, and both are threatened and at times undermined by the river. In Pukará, the case may very well be the same as at Chavín; that is, that the buildings and the carved monoliths do not belong to the same era as the pottery found on the surface, that they are only survivals of the culture buried beneath the alluvium. These considerations, after my arrival in Pukará, led me to make a careful examination of the river bed in the portions nearest to the ruins. There in the steep banks I discovered, as was to be expected, several superimposed layers of rubbish containing rich archaeological material of the same kind as that found at Chavín and Kotosh; a multitude of fragments of the finest pottery, incised, carved and painted; as beautiful as, and, in certain aspects, superior to the best specimens of Chavín pottery. This abundant material gathered at Pukará affords a fresh and illuminating contribution to our knowledge of Chavín megalithic art. The Pukará pottery is one of the best manifestations of the Chavín art proper; in it appear, as predominating ornamental motives, figures of the jaguar, the owl, the fish and the serpent, modeled, carved and drawn in the Chavín style.

LA VENTANA

At the beginning of 1937, I explored the archaeological zone of the Department of Lambayeque, and, in the district of Illimo, in one portion of the La Ventana graveyard, eaten away by the La Leche River, I was able to prove the existence of three levels of strata formed by the refuse of human activity: an upper one, belonging to the last Chimú period; an intermediate one, belonging to the pre-Chimú period; and a lower one, corresponding to the Chavín era. In this last stratum I found remains of incised and carved pottery of the Chavín and Huallaga (Kotosh) styles.

ECUADOREAN RELATIONS

Uhle, who in late years toiled solicitously on solution of the problem of Maya expansion and colonization in South America, thinks that the high cultures of North and South America are simply branches of the Central American trunk. For him, the Ecuadorean and Peruvian cultures, in their more advanced phases, are so many outlying branches of the old Mayan tree. In my opinion, the problem of Central American origin of the Andean cultures can no longer strictly be linked with the second age cultures, such as Muchik, Nazca, and classic Tiahuanaco, that do not offer the remotest resemblance to the Central American cultures, but do offer resemblances to the Chavín stone culture. And the fine, incised, and painted pottery of the Ecuadorean Sierra that Uhle looks upon as genuine Maya, is none other than Chavín pottery.

CHARACTERISTICS OF THE CHAVÍN CIVILIZATION

The research work so far done in connection with the Chavín megalithic culture gives some idea of its main characteristics and broadens the horizon of its area of diffusion throughout both the inter- and trans-Andean regions and the Pacific seaboard.

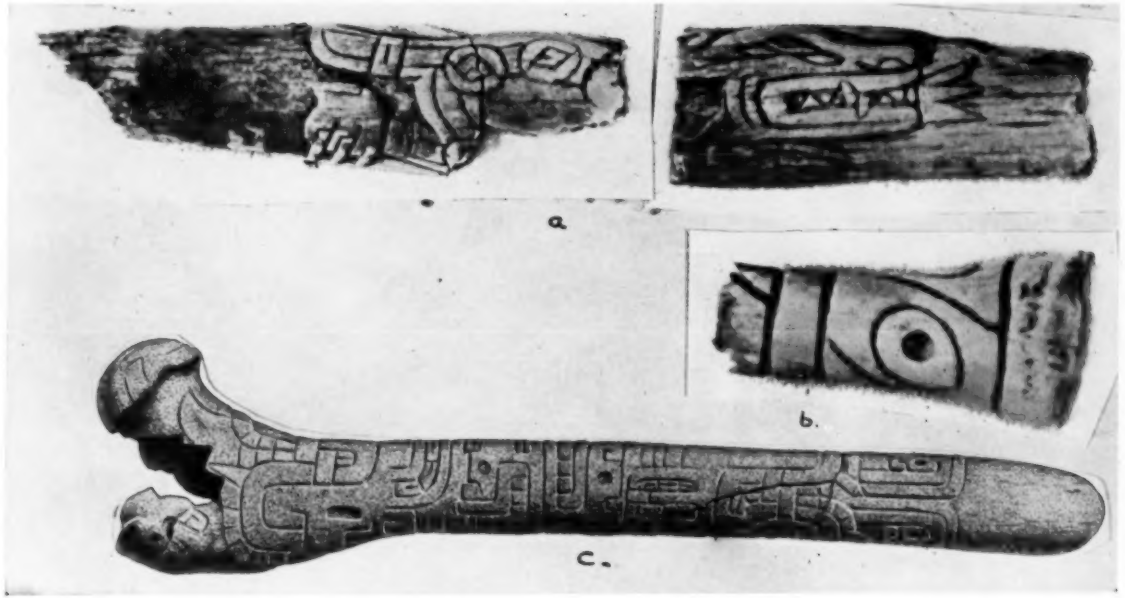
Within the domain of the Andes, no civilization has such well defined and peculiar features as the Chavín civilization. Its most important center is the upper Marañon basin, and its widespread area of dispersion crosses the frontiers of the northern Andes. Where remains are found, whatever the example of building or handicraft, or whatever the material employed—stone, metal, bone, clay or any other that has withstood the action of the weather—there appear the vigorous unmistakable architectural, sculptural or pictorial creations of an extraordinary race. Its name and recollection have been erased from man's memory with the passage of centuries, but it has left behind undeniable traces of a civilization of such peculiarity and originality that it has no equal in other South American prehistoric cultures.

Chavín: *a*, west side of main temple, 1940; *b*, head from west wall, 14.9 inches high, 15.7 inches broad; *c*, head found in thick layers of rubble and rubbish on south wall, 1939, 13.8 inches high, 11.7 inches broad; *d*, head discovered in wall around cultivated field adjoining temple, 16.9 inches high, 20.5 inches broad; *e*, head found in subsoil of cultivated fields facing main façade of temple, 16.9 inches high, 20.5 inches wide.

Chavín de Huantar; decorated stone cornice slab from temple.

Chavín de Huantar; stone idol in shape of spear head. Located in one of dark inner chambers of temple, uncovered 1919. It is 17 feet, 10 inches high.

Chavín de Huantar; decorated stone cornice slab from temple.



a, fragment of bone spatula with engraved figures; *b*, fragment of tube of human bone; both from rubbish heap in subsoil, Pallka, Casma Valley; *c*, bone spatula, Chicama Valley (private collection).

The following are regarded as typical manifestations of the Chavín civilization:

1. Stone buildings grouped within walled enclosures. Pyramidal temples formed of one or more tiered platforms, with interior galleries and rubble and earth fill. Special chambers or, properly speaking, places of worship in the upper portion, are reached by underground stairways. The inside walls of the chambers of worship and galleries are frequently plastered with a thick layer of fire-hardened clay. This surface of burnt earth is also applied to the stucco and modeled reliefs decorating the faces of the chambers and altars. The front of some buildings, like the Chavín de Huantar temple, is protected by a high wainscoting of dressed and polished flagstones (Pl. XX), and the face of the whole building is lined with rectangular stones disposed in horizontal courses in which two courses of thin stones alternate with one of broad (Pl. XXI *a*).

In the buildings discovered in the Callejón de Huaylas, such as those at Pomakayan near Huaraz, the real Chavín structures are hidden under Recuay structures, which proves the superimposition of buildings in some remote epoch. In others on the coast, like those at Sechín Alto and Moxeke (Pl. XIII *b*) in Casma, and Cerro Blanco and Punkurí in Nepeña, conical mud brick is used for filling in the understructure, while earth is used for constructing the large idols placed in the niches and for modeling the arabesque decorations of the inside of the chambers and paint for the mural frescoes.

The mud brick and plastic sculpture, apparently originating on the coast, do not exclude the lithic sculpture so characteristic of Chavín art, displayed, in the case of Cerro Sechín, in the numerous monoliths enclosing the great platform or foundation of the temple.

2. Sculptural work exemplifying an advanced stone art, displayed in figures carved in high and low relief, statues used for temple adornment, and a multitude of stone utensils found in graves. In this art, the outstanding features are the stelae and obelisks, and the knob heads reproducing fantastic beings (Pl. XXI *a–e*), and monsters in the form of animals or birds, of which finds have been multiplied lately both in the Sierra and on the coast. Within this category are the Cerro Sechín reliefs representing human corpses, quartered human bodies, heads, eyes, arms, legs and parts of the spinal column.

3. Pottery consisting of monochrome containers in black, red or gray, that at first sight give the impression of being wooden or stone vessels, or of having been made with a hard material and tools adapted to drilling, cutting away, incising and generally sculpturing the figures adorning them. The body of the jug is solid, with pronounced curves, globe shaped or, in some cases, with facetted surfaces and salient angles; the

base, flat; the neck, thick, tubular, and arched; the rims, with an outward curving lip in imitation of wood or stone carving; the edges of the plates and the lips of the pots, thick and beveled. Vessels of this description carry an ornamentation of straight or curved incised lines, with a touch of graphite, in the case of the red-colored ones, at the bottom of the incision in rows of triangles in lines, or crisscrossing in a network pattern, perhaps a survival of the agave net or meshing that used to protect the original type wooden containers. They have tracery incised in the clay, prior to and after firing, fluted and pleated decorations, pitting and scratches, and plane, high, and low relief, imitating wooden vessels in shape, technique and ornamentation.

4. Representations of demoniacal or mythical beings, based on one fundamental theme, the head of the feline. Such are:

a. A long-bodied dragon, with a snout armed with big fangs and feet with claws, that resembles a crocodile. This monster is hermaphrodite, and carries an enormous fanged mouth in its belly and a handful of yuca and red peppers in its feet. Associated with it in the same allegory are three animals, a feline, a fish, and a bird, either vulture or owl. The best existing example is the one adorning the obelisk found years ago in the middle of the main square of Chavín temple, now in the University Museum (Pl. XXII).

b. An anthropomorphic felinoid monster, that has for archetype the feline accompanying the dragon. It is best illustrated by the figure appearing on the Raimondi stela now in the Museum of Peruvian Archaeology.

c. A humanized, birdlike monster, which is the same bird that accompanies the dragon. The body is built up by transformation of the morphological details, such as the wing and tail quill-feathers, the face and claws, into serpents and wholly or partially reproduced feline heads. Fine illustrations of this winged monstrosity are found in various entire or incomplete Chavín stelae, now reproduced in plaster-of-paris and exhibited in the Anthropological Museum.

d. A fishlike monster (Pl. XXIII), which is likewise an idealized representation of the fish accompanying the dragon. As in the previous instance, the morphological details of the animal, the face, scales and fins, are transformed into feline heads. The finest example is in the great stela found in 1919 at Yauya, on the right bank of the Yanamayo, of which a replica is on exhibition in the San Marcos University Archaeological Museum.

e. Humanized felines, of simpler composition and with more human, though cadaverous, general features; strange beings, dismembered heads and limbs lacking the lower extremities, associated with arms, feet,

heads, eyes and vertebrae, as if these parts of the human body had been endowed with life. These fantastic beings are found in Cerro Sechín temple reliefs, and on tablets discovered in various sites in the outskirts of the Pukcha basin. In some instances, they wear long crimped locks, have the head covered with a helmet, and are armed with clubs or hatchets.

In the decorations of the ceramics, the gold and silver work, the bone carvings (Pl. XXIV) and the many stone utensils, we find motifs derived from the head of the feline or from the monsters described above.

It is remarkable that this Chavín art should be found in such a typically uniform style and in so many different manifestations, in places far removed from the centers of greatest development, preserving the characteristics of a mature industry based on fixed standards, and free from the substantial modifications so common in other arts that have likewise been propagated at a distance from their centers of origin.

Strictly speaking, there is no fundamental difference between a Chavín-type piece of pottery found at Chavín and another found on the coast, on the Huallaga, or in southern Ecuador.

SUMMARY

To sum up, very little was known about this civilization prior to 1919, in which year the first San Marcos University expedition was made to the important archaeological center of Chavín de Huantar. In subsequent years, a series of explorations covering different parts of the country have resulted in the discovery of other sites pertaining to the same civilization, as important as Chavín itself.

Temples and extensive beds containing Chavín pottery have been identified in the Callejón de Huaylas, at Inka Wain and Pomakayan; in the Santa Valley, at Ipuna and Suchiman; in the Nepeña Valley, at Cerro Blanco, Punkurí and Kusi-pampa; Pinchamarka and La Carbonera; in the Pativilca and Supe Valleys, at Puerto de Supe and Chimo Kapak; in the Huaura Valley, at Choka Ispana; at Lachay, Chavín graves in the Teatino cemetery; at Ancón, extensive rubbish heaps with pottery considered by Uhle as belonging to the early fisherfolk; at Bellavista, Pachacamac, Cruz de Hueso and Pucusana, rubbish heaps with Chavín pottery; and finally, in the Paracas caverns and at Ocucaje. Going east, in the Huallaga basin, chiefly at Kotosh, the outskirts of Huánuco, San Luís de Shuaro and Satipo; and, on the Marañon, in the basins of the Yanamayo, Pomabama, Crisnejas and Chotano Rivers, where Pasa Kancha, Yauya, Chakas, Kumbemayo, Hualgayoc, Huambos and Pakopampa are to be found. To the south, in the

basin of the Pucará. To the north on the seaboard, Mocán, Sausal and Barbacoa in the Chicama Valley; La Ventana, Chongoyape and Chiclayo in the Lambayeque Valley; and Moropón in the Piura Valley. In the southern region of Ecuador, Cerro Narrío, Alausi, Puntos de Mar, Cuenca, Sigsig, Chordeleg, Saraguro, Chinguilanchi, Rircay and Uchucay, all places mentioned by Uhle but regarded by him as sites of Maya propagation.

Remains of the Chavín civilization are found everywhere buried under later remains as different in type as if they were completely unrelated. Yet certain facts given below lead to the presumption that a stage of transition once existed between the Chavín and the Recuay-Pasto civilizations. In some aspects they seem to prove that the latter is derived from the former, or that, having had different origins, they for some time were contemporaneous and intermingled.

In the Sierra adjoining the forest lands, just as on the upper Huallaga and upper Marañon, Chavín remains are found in their classic shapes with all their wealth of variety of style. Apart from the stone sculptures, vessels are met with in these centers decorated by engraving that runs from mere incised lines or pitting and scratches to high and low relief and sculptured figures. This eastern Sierra art is also represented on the Pacific seaboard.

A general study of the coastal Chavín pottery from the standpoint of shape reveals two kinds of vessels: a polyhedrous carved type and a globular painted type. These belong to the Chavín and Recuay ancestral influences that bring them into existence. The first has straight lines with slightly pronounced angles and curves, and a cylindrical, curved, thick, or conical neck, and thick sides with engraved or carved ornamentation in imitation of stone or wooden vessels. The second has a curved outline, with a swollen neck and ornamentation that begins with a negative technique and ends up with polychrome painting.

The coastal Chavín art, though it preserves many of the classic shapes and ornamentations of the eastern Sierra art, furnishes other local styles in the beds or colonies found along the Pacific seaboard. Thus, the vessels taken out of the Chavín Teatino graves at Lachay, while conserving some of the classic shapes and the monochrome feature in black or dark brown, display other shapes and decorations that are repeated and copied under new styles of workmanship in later cultures.

Another derivative of Chavín art is the Nepeña type, discovered by Bennett in Virú and named by him Gallinazo. Herein are found elements of Chavín descent; bowls with thick sides and rims with a slight outward curve, like those found at Ancón and Teatino; jugs formed by the union of a pot and a bowl, with thick cylindrical or slightly bell-shaped neck;

globular jugs with or without base, having an arched tubular neck and a border or curve to the rim; vessels in the form of human figures, of a type strange to the coast but common in the interior, with straight lines, sides of uniform thickness, of a dark-red chocolate or white color, invariably of a single color and in some instances with traces of negative decoration. These are found throughout the Nepeña valley and in the vicinity of Casma, Santa and Virú, penetrating into the Muchik area. The ornamentation is incised or has plastic appliqúes of molding with milled indentations made by the fingernail. The Pativilca vessels also have polyhedrous shapes and their ornamentation consists of figures that are a reproduction of the classic Chavín, though simplified or degenerated.

Discoveries of specimens of Chavín art in different parts of Peru go to prove how wide its area of propagation was. Comparative studies of these finds have resulted in identification, in places distant from its center, of the very features that define this classic art. It is no matter of mere analogy. The objects found on the coast are the same as those found in the focal point; and the pottery is the same in quality, shape and ornamentation as that found in the subsoil of the megalithic structures of the Chavín de Huantar temple. Evidence of another sort found on the coast, like that cited above, proves that the classic Chavín art influenced, or perhaps originated to a great extent, the art of later civilizations. In this respect, the finds made in the Paracas caverns are extremely revealing. Here we have incised pottery decorated with resinous paints of divers colors in ornamental motifs that are none other than Chavín motifs and demoniacal figures. Remains of pottery with a Chavín affiliation have also been found in the inter-Andean zone of Ecuador and at Manta, though not in the properly classic shapes. In the south, proofs of Chavín influence are also met with in one of the most important Tiahuanaco centers, Pucará, and it is not impossible that the Barreal type of Argentine pottery is only one of the outlying manifestations of the Chavín civilizations.

In the light of the above facts it can be asserted, with a considerable degree of confidence, that there is a Chavín megalithic culture. We learn nothing about it from the historians and chroniclers of the Indies whose works have been and still are regarded as the most reliable sources of historical information. We learn nothing about it, either, from modern investigators. In the collections of Peruvian antiquities existing in Peru and abroad, specimens representative of this forgotten civilization are scarce. Nevertheless, its existence is a fact. Ruins of its towns and temples are frequently found buried under alluvial deposits or other buildings subsequently erected upon them, giving rise to the formation

of mounds that can hardly be distinguished from the natural hillocks and elevations of the countryside.

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